ORGANIZING FARMERS FOR IRRIGATION MANAGEMENT

The Buhi-Lalo Experience

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Research and Service Center
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FOREWORD

To one who has observed the evolution of farmers' participation in the development programs of the National Irrigation Administration, the Rinconada/Buhi-Lalo irrigation project is of special significance. It was in this project that NIA tested and developed the participatory approach to involving farmers in construction, and operation and maintenance of national irrigation systems.

For years, NIA had attempted ways of having farmers maintain farm-level facilities and distribute water equitably after the turnout. An activity that was always prescribed during the construction of a national irrigation project was the setting up of "compact farms" where farmers were organized for maintaining farm ditches, sharing irrigation water, and securing agricultural inputs and extension services. Generally, this did not produce the desired results.

In December 1980, NIA began to try a new approach to organizing farmers in its national systems. Trained community organizers were fielded in the Buhi-Lalo project which was being rehabilitated and expanded from 1100 hectares to 3000 hectares. The community organizers mobilized the farmers to participate in planning and constructing irrigation facilities, particularly those at the farm level, and to assume operation and maintenance responsibilities afterwards. Nine months after the community organizers were fielded, three incipient irrigators' associations, after participating in the improvement and rehabilitation of their areas, initiated negotiations with NIA for taking over the operation and maintenance of their respective areas. This was quite unprecedented. Whereas before, NIA had been exhorting farmers to assume operation and maintenance responsibilities at the farm level without success, this time farmers were asking NIA to turn over the management of the irrigation system to their associations. NIA had developed a process that worked. And therein lies the significance of the Buhi-Lalo project.

NIA had regarded the farmers' organizing activities in the Buhi-Lalo project as the first step in learning how to develop irrigators' associations that can share operation and maintenance responsibilities with NIA in national irrigation systems. As part

of its learning process, NIA contracted the Research and Service Center of the Ateneo de Naga to document the process employed in securing organized farmers' participation in the project. NIA wanted the documentation for helping identify the processes that were effective and the problems and difficulties that were faced, and for capturing the entire organizing process which after further improvement could be used in other projects.

During the research period, the research team provided both the NIA central office and the Buhi-Lalo project management with regular monthly reports, which served as a data base for understanding the strategies which were introduced to involve farmers in project activities and the problems which these strategies brought about. The monthly reports, however, naturally presented fragmented pictures of processes and problems. The present volume, which summarizes 15-month data on farmers' participation in project activities, provides the comprehensive picture of different processes tried out during the period, and the issues and problems attendant to the use of these processes. The report also discusses lessons gleaned from field-level experiences which could guide the formulation of improved strategies for organizing farmers in other projects. The documentation report would also be useful to those who would like to introduce people's participation in the implementation of development projects. The research contract, however, was for a limited period and was not of sufficient duration to enable documentation of the entire negotiating process on the sharing of operation and maintenance responsibilities and the resulting involvement of the farmers in these responsibilities.

The three irrigators' associations in Buhi-Lalo are now operating and maintaining their respective areas. NIA has responsibilities only for the diversion works and a short portion of the main canal outside the service area plus any major repair beyond the capability of the three associations. The associations collect irrigation fees and share collections with NIA in accordance with an arrangement mutually agreed upon. NIA has conducted training in irrigation system management and financial management for the three irrigators' associations. The three associations are planning to merge into one that will completely take over the operation and maintenance of the entire system.

The processes developed in the Buhi-Lalo project are now being used in 26 national irrigation systems over an area of about 23,000 hectares. In two systems, farmers have negotiated with NIA on the turnover of operation and maintenance activities to farmers in their respective sectors. Associations in nine other systems are starting to negotiate with NIA. The eventual configuration which NIA hopes to achieve is for irrigators' associations to operate and maintain sectors of 250 hectares to 400 hectares in the large national systems, with NIA operating the main canal and major laterals. In the case of small national systems less than 2000 hectares, NIA hopes to completely turn over these systems to irrigators' associations.

Benjamin U. Bagadion
Assistant Administrator for Operations
National Irrigation Administration

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To produce this report, we have profited greatly from the invaluable assistance of our team of participant-observers, the lively discussions with the Buhi-Lalo project staff, the intellectual stimulations from colleagues and friends, and the unflagging support of several institutions. In particular, we wish to recognize the contributions of the following individuals and institutions.

Nestor S. Felix documented project activities in Lower Lalo documentation zones, and provided critical research assistance in the preparation of the present volume. Elmer S. Casillan, Victoriano D. Caubang II, Gardenia Oida, and Anita E. Villegas covered the Upper Lalo documentation sites at different periods. Emmanuela F. Abainza provided critical secretarial and administrative support throughout the 15-month research period; Lourdes Nakpil typed the final version of this report while Rebecca M. Sawyer read the proofs. Benjamin B. Paculan II finalized the maps and sketches. Cynthia C. Veneracion helped us wrestle with words and ideas, and edited this volume and the numerous documentation reports which the research produced.

Romana P. de los Reyes, research consultant, plodded through drafts of this and other documentation reports. Frances F. Korten, Ford Foundation program officer, offered constructive comments. Another individual who kept faith with the research was Benjamin U. Bagadion, assistant administrator for operations of the National Irrigation Administration, who continually supported our research efforts.

The Buhi-Lalo project staff provided us crucial information and critical comments. The community organizers and technical staff assigned to the documentation sites shared their insights, anxieties, and work space. In 1981, Teodoro Ehera and Inez Pinat, institutional consultants who supervised the organizing work, helped us understand the organizing strategy which they were developing for the project. And Feliciano B. Berdin, Jr., project manager, supported us during troubled times and appreciated the role which the research played in the project. The U.S. Agency for International Development (Manila Office) helped NIA fund the research for the period October 1981 through March 1982. The Research and Service Center of the Ateneo de Naga provided the research team logistic and moral support.

To these institutions, colleagues, and friends, we owe our heartfelt gratitude. They do not share, however, in the errors of judgment which might have crept into the report.

This report is dedicated to the thousands of farmers in the Buhi-Lalo project area who housed and taught us and our research staff, and who proved that they were as willing as NIA to test and operationalize the participatory approach to irrigation development.

Jeanne Frances I. Illo
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EXECUTIVE SUMMARY

In the late 1970s, the National Irrigation Administration (NIA) of the Philippines initiated the Rinconada/Buhi-Lalo project. Located in Southern Luzon, this project involved the improvement of an existing system (in Upper Lalo) and the development of newly irrigated areas in several adjoining, rainfed, rice-growing communities (in Lower Lalo). The project covered an area of approximately 3000 hectares.

By early 1980, NIA had decided to use the Buhi-Lalo project as a site for its effort in applying a participatory approach to irrigation development on systems larger than 1000 hectares. (Since 1976, NIA had implemented the participatory mode of irrigation development in community systems which were generally smaller than 1000 hectares.) For the Buhi-Lalo project, NIA hired and trained 15 community organizers (COs), or one CO per 200 hectares, to help farmers develop their irrigators' organizations and to assist farmers work with NIA's technical staff (TS) in planning the layout of canals in the service area and in constructing those canals. NIA's objective in stimulating this participation was twofold: to develop the skills, commitment, and organizational structures of the irrigators' association by involving farmers in the activities accompanying the development of their irrigation system; and to improve the physical design of the system by combining farmers' knowledge of their area with the technical expertise of NIA's engineers. Once the irrigation system was functioning, NIA expected that irrigators' associations developed through the participatory approach could take on greater responsibility and authority for system operation and maintenance than had been possible in other national irrigation systems developed without using the participatory mode.

In December 1980, NIA commissioned the Research and Service Center of the Ateneo de Naga to document the process of applying this participatory approach in the development of national irrigation systems. Top NIA officials wanted to fully understand the field-level activities and the implications they would have for potential broader applications of the approach. To provide the NIA officials continuous feedback on project activities, the research team prepared monthly documentation reports. Documentation of project activities was done intensively on four (of the original 13) zones of the Buhi-Lalo project, two each in Lower Lalo and Upper Lalo. In all, 15 monthly reports on the Upper Lalo

documentation zones and another 15 on the Lower Lalo documentation zones were submitted to NIA.

This present volume summarizes the results of the documentation research conducted from January 1981 through March 1982. This report discusses the development of the irrigators' associations, farmers' involvement in the layout of canals and terminal facilities and in the construction of these facilities, and the associations' initial plans for operation and maintenance of the system. It also examines the respective roles of the institutional staff (community organizers) and the technical staff (the engineers, surveyors, and construction supervisors), revealing the implications of the use of a participatory approach for implementation of irrigation development projects.

Key Processes and Strategies

The documentation research data from the Buhi-Lalo project revealed eight key strategies and processes for organizing farmers and ensuring their participation in different phases of the project. These strategies were completely spelled out in Upper Lalo, where construction of terminal facilities and formalization of zone-level irrigators' associations were observed in addition to preconstruction activities. In Lower Lalo, observations were limited to preconstruction strategies and processes.

Organizing farmers' groups and developing farmer-leaders

Community organizers in the Buhi-Lalo project were given some time to prepare farmers for project activities. For this purpose, construction, which had begun by November 1980 in Upper Lalo, was temporarily suspended between January and March 1981 to allow COs at least four months to undertake initial organizing work. In Lower Lalo, where construction was not slated to start until 1982, COs had over 16 months to mobilize farmers for preconstruction tasks. During this period, COs divided their zones into organizing units, each corresponding to an area which would be served by a common turnout on a main or lateral canal; an area was generally between 20 and 54 hectares. Farmers were then organized, based on turnout location, into rotational-area groups. And within each rotational group in Upper Lalo, farmers were further grouped

according to the supplementary farm ditch which would serve their land.

After the first month, each rotational-area group met to choose their rotational-area and ditch leaders (in Upper Lalo) or to form working committees and elect the area's overall chairman and secretary (in Lower Lalo). These leaders were tapped by COs to prepare and/or validate lists of farmers in their area, disseminate project information through visits with individual farmers and conversations with small groups, convene meetings to plan for farmers' participation in project activities, and bring farmers together to accomplish certain tasks. Farmers and COs continuously assessed the leaders' involvement in leadership activities; inactive leaders were dropped and replaced. By the end of March 1982, there was one leader for every six members in the Upper Lalo documentation zones, while in Lower Lalo documentation sites, the ratio was one leader for every four or five members.

Revising the NIA planned terminal facilities

Prior to the fielding of the COs, the project office had prepared a preliminary layout of canals for Lower Lalo, and of terminal facilities (turnouts, farm ditches, and other farm-level structures) for Upper Lalo. After COs had begun to develop informal farmers' organizations in Upper Lalo, NIA's initial layouts were then revised according to feasible farmers' suggestions. The NIA engineers and COs explained the preliminary designs to the farmers. Objections to proposed ditch routes were discussed, and field investigations were conducted by the NIA technical staff and the farmers to finalize the ditch layout. During the field investigations, the group walked the length of proposed ditches (or existing ones for rehabilitation) from start to end; this process was known as a "walk-through." Of the 77 NIA-designed ditches, 29 (or 38 percent) were immediately confirmed by the farmers, 30 (39 percent) were revised during the walk-throughs, and 18 (23 percent) were deleted. Nine additional ditches were located during the walk-throughs to replace half of those deleted by farmers from NIA's initial designs. Consequently, a total of 68 (instead of 77) ditches were approved by farmers for construction and subsequently built by them. This meant a reduction in the total length of ditches from 48,387 meters (or 94.3 meters per hectare) to 46,262 meters (or 90.2 meters per hectare), and a reduction in construction cost to ₱157,611 or a lowering of costs by about ₱14 per hectare.

The four most common reasons for farmers' proposed changes in the location of ditches and turnouts were: (1) to have as large an area as possible (including previously unirrigated land) irrigated by the ditch network, (2) to avoid unnecessary loss of land which would be taken up by ditches, (3) to distribute the loss of riceland among farmers who would benefit from the system, and (4) to construct ditches which would not involve negotiating for right of way with contentious cultivators or owners of riceland affected by the proposed ditch route.

In Lower Lalo, which was as yet unirrigated, COs and NIA technical staff explained to farmers the preliminary layout of the main and lateral canals prepared by the project office. Moreover, COs mobilized the farmers to prepare a rough sketch (spot map) of their proposed rotational area and to indicate on it their suggested ditch routes. To accomplish this task, farmers formed a spot-map committee which, together with other leaders and members, conducted walk-throughs to identify likely ditch (and sometimes, canal) lines. The leaders then presented their initial paper location of ditch lines to the area membership during meetings or visits with farmers, and revisions were made. A walk-through with project design and survey personnel were then undertaken by the farmers. Unlike in Upper Lalo, therefore, where the farmers responded to the NIA-proposed location of terminal facilities, in Lower Lalo, NIA engineers responded to farmers' initial layout of terminal facilities.

The TS-farmer walk-throughs in the Lower Lalo documentation zones confirmed at least half of the lines in the farmers' layout. The three most common reasons NIA revised the farmers' suggested ditch routes were: (1) to avoid ditch lines which would cut through high grounds, (2) to replace overextended ditches, and (3) to simplify the layout without significantly reducing the farmers' identified irrigable area.

To finalize the location of terminal facilities, the project office surveyed the ditch layout endorsed by the NIA-farmer walk-through teams. Leaders and other farmers, particularly those whose lands would be traversed by the proposed ditches, accompanied the NIA surveyors. Further revisions occurred because of ROW or technical considerations. Survey results were discussed by the leaders with the rotational-area members, and the project office was apprised of objections before the ditch designs were finalized. For the activities (including surveys) leading to the location of terminal facilities, farmers in the Lower Lalo documentation zones

spent about 25 person-days per rotational area, or roughly 318 person-days per zone. These figures were at least 50 percent more than the time invested by Upper Lalo farmers in ditch-location activities, which were approximately 12 person-days per rotational area or 142 person-days per zone.

Obtaining right-of-way agreements

Farmers were encouraged to secure ROW agreements for terminal facilities because the government provided no compensation for the lands used. In Upper Lalo, rotational-area leaders usually negotiated ROW for the main farm ditch while ditch leaders undertook ROW negotiations for supplementary farm ditches. In Lower Lalo, the overall chairman, ROW committee, and other leaders engaged in ROW negotiations for ditches and lateral canals in their rotational area.

In most cases, farmer-leaders easily secured written or verbal ROW permissions. Because farmers often joined field investigations to locate the ditches, ROW agreements could be negotiated immediately, and ditches could be rerouted away from the land of those who adamantly refused to grant ROW donations. Problems arose when some landowners whose properties were affected by proposed ditches were not present during the field inspection. A tenant or lessee could not immediately grant ROW without the consent of his landowner, who might live outside the area. Thus, it took some time before the landowner's consent could be secured by the leaders.

In negotiations with farmers who refused to donate ROW, leaders conducted constant and relentless talks and subtle coercion, exerted peer pressure, or conceded to conditions which they could meet (such as removing a boulder from a farm). The leaders also sometimes sought the assistance of COs and other project personnel to settle persistent ROW problems. When all these means failed, farmers and the NIA technical staff then agreed to reroute the ditch in question or to end the proposed ditch before it reached the fields of those who refused to grant right of way.

Constructing terminal facilities

Construction in a rotational area started only after the revised ditch designs had been finalized with farmers, all ROW negotiations completed, the ditches staked out and canal molds done, and construction terms and arrangements discussed with farmers in preconstruction conferences. The NIA zone engineer and COs closely coordinated to determine when farmers were ready to construct the terminal facilities.

In Upper Lalo, farmers worked as wage laborers in construction works which were undertaken by NIA and in canalization accomplished under volume-of-work (takay) arrangement. Because of takay-related problems, NIA shifted to awarding fixed-price (pacquiao) contracts for the remaining canalization and construction of ditch structures. Farmers were asked to submit their bids. NIA decided to use the government price (which was greatly exceeded by the farmers' bids) to cost canalization contracts, and the lowest of farmers' bids (which was slightly higher than the government price) to cost labor for the construction of structures. Beginning in October 1981, rotational-area leaders contracted the construction of terminal facilities within their respective rotational areas. A leader usually hired farmers from his area for a share in the contract price. Pacquiao-contract teams were provided work specifications by the project office. Workers were supervised by NIA zone engineers and their attendance was recorded daily by a farmer-leader whom workers had chosen to act as attendance checker. Upon completion of a ditch, the checker submitted to the zone engineer the attendance sheet of workers hired under takay. In pacquiao jobs, the leader who contracted the work kept the attendance records on which he based the amount to be paid each worker after NIA had paid him for the completed job. Completed facilities were inspected by the technical staff before the project office made out payments to individual farmers (in the case of takay) or leader-contractors (in the case of pacquiao).

In some areas, construction activities were briefly delayed for the following reasons: lack of manpower when construction coincided with labor-intensive farming operations in the area, bad weather, one ROW problem, decision of farmers' groups to suspend work until the project office had adjusted the contract price or had explained the reduction in initial cost estimate of a canalization job, or refusal of some farmers to work due to chronic delays in the payment of wages or contracts. Despite these problems, construction of programed facilities, which had begun in mid-March

1981, was completed in February 1982. Prior to the introduction of the participatory approach, NIA had expected to finish construction in Upper Lalo in December 1981. When the COs were fielded, NIA suspended construction plans while the farmers were being organized and terminal facilities were being revised, and reset its target for construction completion to June 1982. As it turned out, construction was completed faster than projected--two months later than the original target and four months earlier than the reset schedule.

Checking completed facilities

To ensure the functionality of system facilities, the project office initiated in Upper Lalo a field inventory of completed facilities. The technical staff coordinated with COs who mobilized farmers to participate in the activity. The NIA-farmer team found out that 6 (of the 68) completed ditches had weak embankments and 7 (of the 90) structures were defective. Project engineers indicated that the number of these problem facilities was low compared with those in other nonparticipatory projects they had worked on.

Farmers suggested the redesign or reconstruction of most of the defective structures, and the relocation of a few others. Moreover, they requested the project office for the lining of ditches or portion of ditches in 13 of the 17 rotational areas in the two documentation zones, as well as the construction of additional structures, particularly ditch crossings. By the end of the documentation period, NIA had yet to respond to the farmers' requests.

Observations made during the first months of the operation of the improved irrigation system showed that of the 68 ditches built in the documentation zones, 1 was erased while 67 were used. Moreover, farmers in two rotational areas began maintaining the farm ditches with very little prodding from NIA system personnel. Engineers in the Buhi-Lalo project found both points remarkable in the light of experiences in other (nonparticipatory) projects where farmers erased a majority of new ditches built by NIA, and of problems previously met by NIA system personnel in getting farmers to maintain the farm ditches.

Organizing zone-level irrigators' associations

In anticipation of farmers' participation in system operation and maintenance, farmers were organized into system management units according to organizing targets set by the project office. Thus at the outset, COs helped farmers organize themselves into rotational-area groups, which were expected to manage the irrigation facilities found in their sections of the system (generally between 20 and 54 hectares) after the NIA-association system management contract was drawn up.

In mid-1981, Upper Lalo COs in the two documentation zones began developing canal-based zones, composed of 7 or 8 rotational areas and covering about 256 hectares per zone. During the operation of the system, these zones would oversee the activities of their rotational areas. It was then at the zone level that the irrigators' associations were formalized and given formal government recognition. This was a departure from NIA's approach in other national systems where formal irrigators' associations only existed for the rotational areas. The zone-level associations, which were organized in December 1981, would be responsible for managing the irrigation facilities within the zone, including coordinating with NIA on matters pertaining to these operations.

Beginning in September 1981, the project office assisted Upper Lalo farmers organize themselves into zone associations by engaging leaders in a series of conferences. During these sessions, they were informed about the requirements for the association's registration with the Securities and Exchange Commission (SEC), encouraged to develop strategies for accomplishing these, and provided copies of the documents such as a sample set of bylaws. In each zone, leaders prepared the initial draft of the bylaws; these were revised during rotational-area meetings. During the general assembly convened in December 1981, farmers ratified their bylaws, and elected their association officials. Farmers' preparation for their association's SEC registration continued until the end of March 1982; these were undertaken by leaders with the assistance of COs and other project personnel.

Developing a NIA-association contract

The project office initiated a series of conferences, beginning in May 1981, to help Upper Lalo farmer-leaders outline the broad terms to be incorporated in the NIA-association system management contract. The leaders drew from their experiences and problems with NIA's management of the system to prepare the initial set of conditions which were presented for rotational-area members' confirmation, and later discussed with the NIA assistant administrator for operations during the first negotiation session held in September 1981. Subsequently, the project office instructed COs to mobilize farmers of each zone to prepare the terms for their involvement in system management. The newly-elected association board of directors took the lead in drafting the new conditions. In Zone I-A, the board drafted the terms, presented them to project management for comments, and sought farmers' reactions to the drafted conditions. In Zone I-B, the board solicited farmers' suggestions in separate rotational-area meetings. The board and other leaders integrated the proposed terms. The zonal terms were presented to the NIA assistant administrator for operations during the second negotiation meeting in March 1982.

The terms to be negotiated covered NIA's and the association's involvement in water distribution, repair and maintenance of system facilities, collection of irrigation fees, and management of conflicts, and the assistance which farmers expected from NIA to enable their association to discharge system management responsibilities. The assistance which farmers sought included training in system management, provision of an office and service vehicle for the association, and advance of funds to underwrite the association's initial operating expenses. By 31 March 1982 when the documentation research ended, NIA and the associations in the Upper Lalo documentation zones had yet to settle the sharing in irrigation-fee collections. They also had yet to agree on several irrigation-fee collection issues and the farmers' request for cash advance. Nonetheless, NIA and the associations implicitly agreed on trying out joint NIA-association system operation and maintenance before finalizing talks on complete turnover of the system to the Upper Lalo irrigators' associations.

Coordinating technical and institutional activities

Throughout the documentation period, the project office convened meetings and workshops for COs and the technical staff to apprise each other of project developments in the field and in the office, to air and seek solutions to different problems encountered in implementing their work programs, and to identify the kinds of support required in order to accomplish their tasks. Moreover, COs and the technical staff, particularly the zone engineers, working in a zone synchronized their activities to ensure farmers' participation in project activities. Coordination of work in the field between COs and the zone engineer was facilitated by several project management decisions like requiring the engineer to set up full-time residence in his assigned zone before construction started in the area and matching the area assignment of COs and zone engineer. Coordination between the institutional and technical staffs was further aided by project management's constant reminder to the technical staff and other project personnel of the participatory goals of the project and the need to coordinate technical and institutional activities in order to maximize farmers' involvement in the project.

Key Implications of the Buhi-Lalo Experiences

The Buhi-Lalo project experiences indicated several benefits which accrued from the participatory approach. By continuously being involved in project activities, farmers seemed to have built a commitment to both the irrigation system and the irrigators' association which would contract system operation and maintenance. A core of farmer-leaders was developed in each zone that could mobilize other farmers who had shown willingness to perform tasks related to the irrigation system. The emphasis placed on rotational-area groups during the preconstruction and construction phases of the project helped strengthen the units which constituted the zone-level irrigators' association. NIA hoped that by turning operational responsibilities over to the associations, it could save on the costs of employing its own personnel to operate the system. NIA's role was to operate the dam and to coordinate among the zone associations to be served by the irrigation system.

Farmers' inputs in system design and construction brought about several benefits. Ditches were located such that the largest

possible area would be irrigated at the same time that right-of-way problems were avoided. Ditches were also designed to fit the uneven terrain in several areas. Furthermore, they were kept to a minimum thereby preventing unnecessary loss of land and reducing construction costs to be borne by NIA. Assurance of farmers' involvement in construction, which farmers perceived as a guarantee for their suggestions to be carried out, brought about greater farmers' willingness to invest time and effort in finalizing ditch locations, securing rights of way, and performing other preconstruction tasks. Because farmers desired to get the system (in Upper Lalo) operating as soon as possible, they also wanted to complete construction as early and as close to technical specifications as they could.

While farmers had shown willingness to participate in system management, working out the details of the management contract proved difficult. The crucial issues of NIA-association sharing in irrigation fees and NIA's cash loan for the associations' initial operation and maintenance expenses had yet to be resolved. Moreover, these issues would likely remain as continuing points of difficulty. Nonetheless, NIA officials were encouraged that farmers were interested in taking on operation and maintenance tasks, and farmers were glad that NIA was willing to consider their conditions.

To realize the various benefits from the participatory approach, NIA needed to invest in hiring and training community organizers; the cost of maintaining its organizing staff in the project averaged about ₱113 per hectare for the 16-month period ending in March 1982. And these organizers required time prior to construction to ensure farmers' readiness to be involved in project activities. Schedules for the finalization of system designs and for construction had to be kept flexible to adapt to farmers' readiness. The participatory approach also demanded extra efforts from both project management and technical staff because the approach involved dialogues, meetings, and field investigations with farmers. And lastly, NIA had to train farmers for system operation and maintenance. However, these additional investments were balanced by the preliminary evidence of a better functioning system and irrigators' associations which were primed to participate in system management.

I. THE RINCONADA/BUHI-LALO NATIONAL IRRIGATION PROJECT AND DOCUMENTATION RESEARCH

In late 1970s, the National Irrigation Administration (NIA) initiated plans for irrigating about 12,000 hectares in the Rinconada district of Camarines Sur province in Southern Luzon. The plans included the construction of a control structure on Lake Buhi which would divert water from the lake; a right main connector canal would bring about 9000 hectares of mostly rainfed riceland under irrigation while a left main connector canal would convey supplementary water to the existing 1100-hectare Lalo River Irrigation System and place under irrigation an adjacent rainfed rice-growing area of 2100 hectares. NIA's work on the area served by the right connector canal was funded by a loan from the Asian Development Bank while its work on the control structure, the left connector canal, and the rehabilitation of the existing Lalo River system was funded by a loan from the U.S. Agency for International Development.

The area to be served by the left connector canal, including the existing Lalo River system, constituted the coverage of the Rinconada/Buhi-Lalo project. It became the first national system irrigation project on which a participatory approach to irrigation development was tried.[1] Because of the experimental nature of that effort, NIA commissioned the Research and Service Center of the Ateneo de Naga to produce monthly reports documenting the field-level activities of the project. This report summarizes 15 months of that documentation, from January 1981 to March 1982.

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[1]Irrigation systems in the Philippines are generally grouped into two types: those owned and operated by the government through NIA, and those owned and managed by local groups of farmers. The former are known as "national" systems while the latter are referred to as "communal" systems. About half of the country's irrigated lands are served by national systems; the other half are covered by communal systems (Bagadion and Korten 1980:275).

NIA first used the participatory approach in 1976 in its communal irrigation projects in Laur, Nueva Ecija. When it employed the same approach in the Buhi-Lalo project, NIA had over four years of experience in developing communal irrigation projects through participatory method. NIA's participatory development work in communal projects is described in Bagadion and Korten (1980) and Korten (1982).

Project Coverage

The Buhi-Lalo project area covered about 3200 hectares. It extended from Barangay Antipolo (in Buhi) down to Barangay San Vicente (in Bato). In all, the project covered 24 barangays of Iriga City and of the three adjoining towns of Buhi, Nabua, and Bato. Figures 1 and 2 show the extent of the project coverage.

Client population

The project would affect about 4500 farming households, or approximately 27,000 people. About two of every five of these households cultivated irrigated rice farms at the upstream section of the Buhi-Lalo area; the rest tilled unirrigated ricefields. The modal size of rice farms ranged from 1 to 3 hectares.

In addition to rice, the households in the project area also cultivated coconut, fruit trees (such as citrus, papaya, banana, and chico), and backyard vegetable garden (consisting of tomatoes, eggplants, ampalaya, and beans). Rice and coconut were raised primarily for the market while produce from the garden and the fruit trees were for subsistence. But a number of households also sold surplus garden and fruit crops.

Rice yields in irrigated farms in the project area averaged about 2.2 and 3.0 metric tons per hectare during the wet and dry seasons, respectively. In unirrigated rice farms, yields were about 1.4 metric tons per hectare during the wet season. Irrigated rice farms were cultivated to four or five crops in two years while unirrigated farms were usually planted only during the wet season.[2] Computations using these production figures show that annual income per hectare (net of production expenses) from irrigated rice in 1982 totaled ₱3000; for unirrigated rice, ₱1400. Rice earnings were usually supplemented by sales of coconut products (about ₱1500 per hectare), pigs, chicken, and poultry products. A typical

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[2]Basic rice yield and income data were derived from the economic and financial analysis report for the Bicol River Basin Rinconada Integrated Development Area. This report was submitted by Tippets-Abbot-McCarthy-Stratton and Trans-Asia Engineering Associates, Inc. to the Bicol River Basin Development Program Office in March 1979.

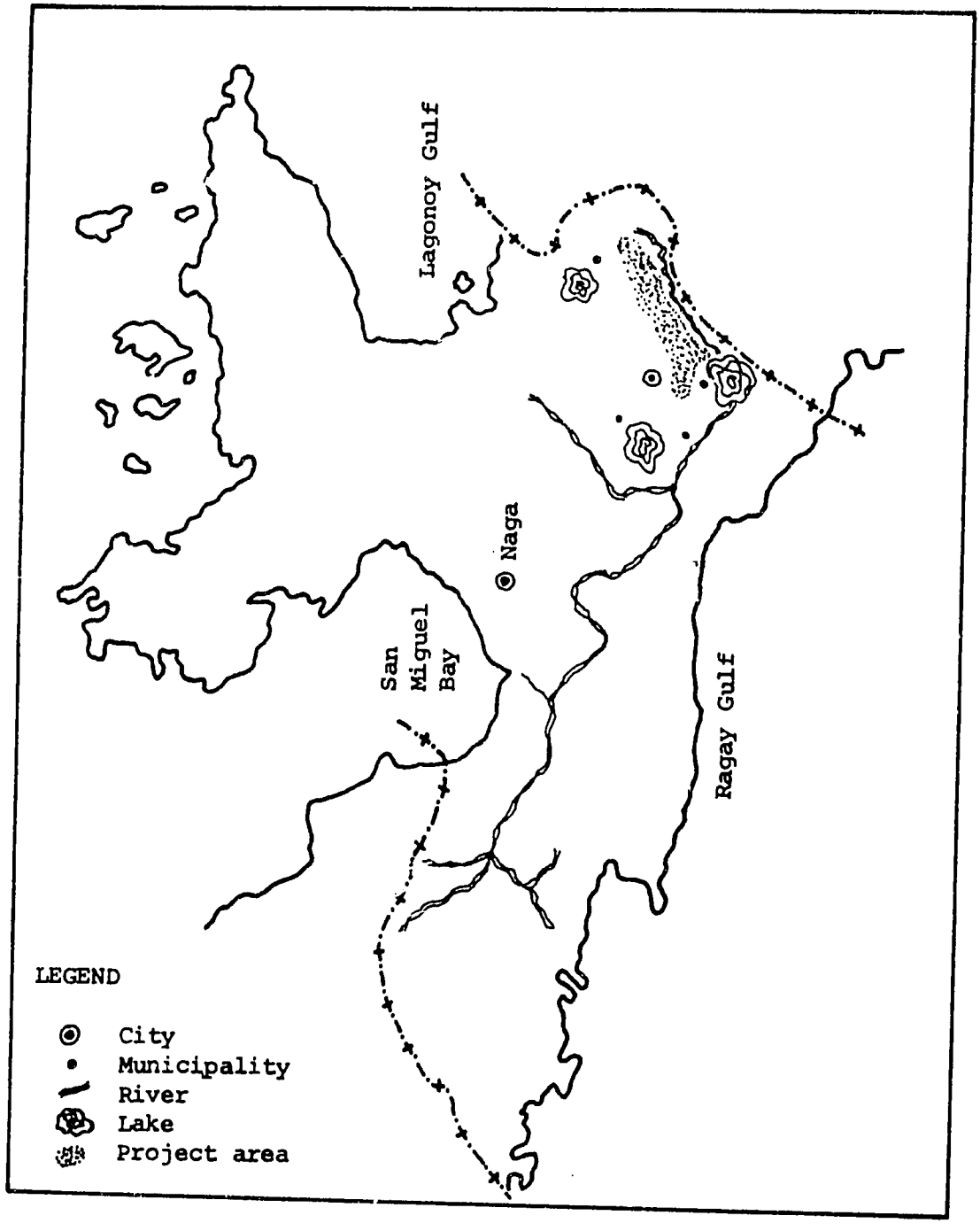

Figure 1. Province of Camarines Sur and the Rinconada/Buhi-Lalo project area, 1982

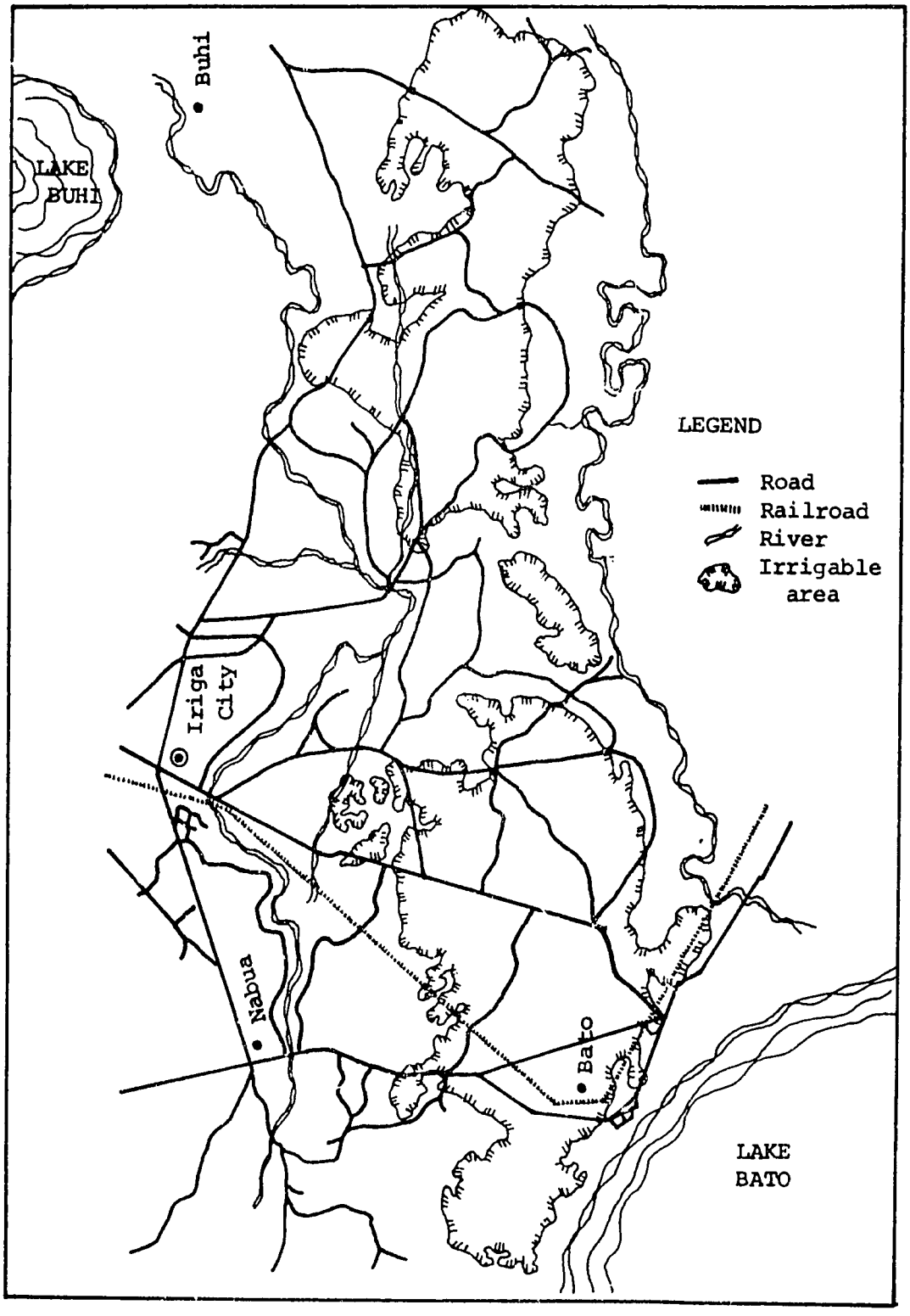

Figure 2. Rinconada/Buhi-Lalo project coverage, 1982

household which cultivated about a hectare of rainfed riceland, about 2 hectares of productive coconut land, and backyard garden and livestock earned approximately ₱6900 a year at 1982 market prices. Households with irrigated rice farms earned about ₱8400 a year.

Farmers in the Buhi-Lalo area were mostly share tenants (35 percent), owner-cultivators (28 percent), or multiple-status rice farmers (24 percent).[3] A few were lessees (9 percent) or amortizing owners (that is, former tenants who had contracted to buy the land they were cultivating through amortization payments remitted to the Land Bank of the Philippines; 4 percent).

Area coverage

NIA divided the 3200-hectare coverage of the project into two areas: the Upper Lalo which would draw water from the Lalo River and the Lower Lalo which would be served by water from Lake Buhi.[4] (The boundaries of these areas as of March 1982 are shown in Figure 3.) Both areas were further divided into smaller hydrological units. That is, each area was divided into zones, with each zone consisting of several contiguous rotational areas.

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[3]Multiple-status rice farmers are usually farmers who till a parcel of land they own and another parcel under share tenancy or leasehold arrangements. The data on the distribution of farmers in the project area by tenurial status were based on a sample survey of 250 farmer-respondents (100 in Upper Lalo; 150, Lower Lalo) conducted by the Buhi-Lalo project office in 1980.

[4]It must be noted that NIA's development efforts in the Buhi-Lalo area began in 1974. In that year, NIA built an intake on the Lalo River, connecting it to a rice-growing area through the construction of 8 kilometers of main canal and 10.6 kilometers of lateral canals. By late 1975, this system began to irrigate about 1100 hectares of riceland. In an effort to irrigate an additional 1000 hectares, in 1976-77 NIA extended the system's main canal and added one lateral canal. However, the water supply diverted from the Lalo River turned out to be insufficent to reach the expansion area. To increase the supply of water and improve water distribution within the irrigated area, in 1978 NIA constructed a core wall for the system's intake, and turnouts and farm ditches in the service area. These improvements also did

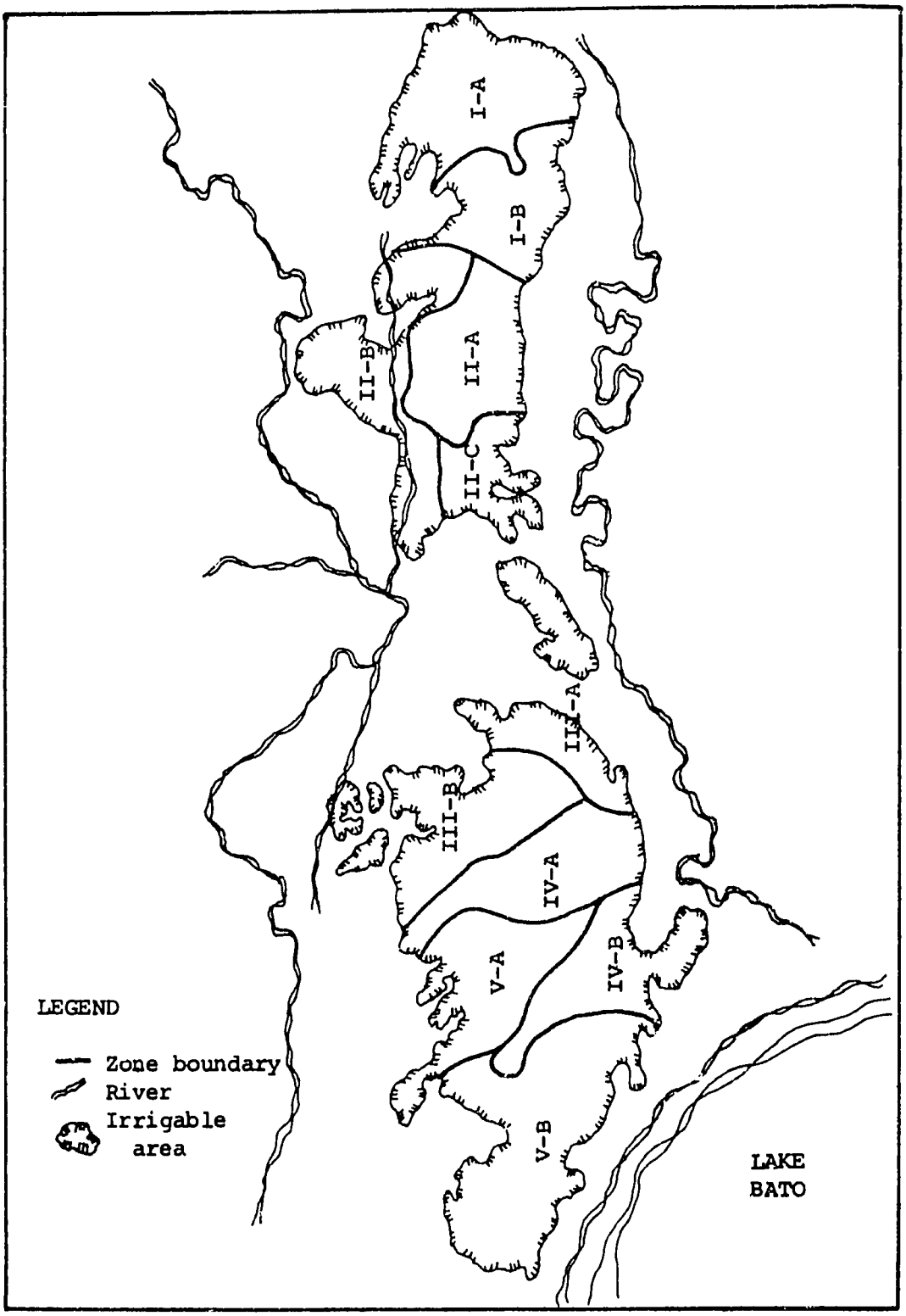

Figure 3. Zone boundaries of the Rinconada/Buhi-Lalo project, March 1982

A rotational area was comprised of adjoining farms which would be served by one turnout either on the main canal or lateral canal. Based on size, the rotational areas were of two kinds: regular (20 to 54 hectares) and special (SP; smaller than 20 hectares). These areas were further labeled according to the locations of their turnouts vis-a-vis the main canal (RAMC) or a lateral canal (RALAT).

Two considerations guided the grouping of rotational areas into a zone, namely: size of the zone and type of canal(s) from which the rotational areas would draw water. NIA defined the ideal size of a zone to be about 250 hectares. This area was deemed to be ideal for the management of construction works. However, for water management purposes NIA planned to combine two zones into one water management district, the ideal size of which was defined to be around 500 hectares.

While the size-of-the-zone criterion guided the initial definition of zone boundaries, these boundaries were later changed in order that a zone would become a meaningful hydrological unit. As finally delineated, the zones covered from 197 to 357 hectares. Each consisted of a contiguous area which would draw water from a section of the main canal and from one or more lateral canals, or from only a section of the main canal.

Upper Lalo. When the project started, the Upper Lalo area included 1100 hectares of existing irrigated lands (served by the Lalo River system) and 300 hectares of expansion area (which would also obtain water from the Lalo River). In January 1981, the entire Upper Lalo area was divided into five zones: the existing irrigated lands comprised four zones (Zones I-A, I-B, II-A, and II-C) while the expansion area constituted the remaining zone (II-B).

After the water supply from the Lalo River had been adjudged to be insufficient for irrigating the two tail-end zones (II-B and II-C), these zones were reclassified in April 1981 as part of Lower Lalo. Consequently, the coverage of Upper Lalo was reduced to three zones (I-A, I-B, and II-A, with an average size of 290 hectares). By March 1982, following the completion of construction, Zones I-A and I-B became Water Management District I while

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not succeed in providing irrigation water to the extension area. Thus, in 1980 NIA began to develop a separate system downstream of of the existing Lalo River system. This new system would tap water from Lake Buhi.

Zone II-A was relabeled as District 2. Upper Lalo had then 12 main-canal rotational areas (RAMCs) and 14 lateral-canal rotational areas (RALATs), or 8 to 9 areas to a zone (see Table A1, in the Appendix, for the characteristics of these areas).

Lower Lalo. At the outset of the project, Lower Lalo covered a total of 1900 hectares of unirrigated lands. This area was divided into eight zones and until March 1981, each zone was further divided into arbitrary farmers' groups (for details, see Illo and Felix 1981). When the project office completed the preliminary paper location of canals in April 1981, the zones were divided into rotational areas. Between April 1981 and March 1982, several changes were introduced which resulted in the fluctuation in the size and coverage of Lower Lalo (see Table A2 for details). The notable changes which took place were as follows.

1. In April 1981, the project office decided that two Upper Lalo zones would draw water either from the left connector canal (Zone II-B) or from Lower Lalo's new main canal (Zone II-C), and not from Lalo River which served the Upper Lalo areas. Consequently, Zones II-B and II-C were transferred to Lower Lalo. Moreover, three expansion zones (VII-A, VII-B, and VII-C) downstream of the original Lower Lalo coverage were created when the project office thought that water from Lake Buhi could also be harnessed to serve these areas. These additional areas increased the Lower Lalo zones from 8 to 13.

2. In July 1981, the project office declared that the left connector canal "did not belong" to either Upper or Lower Lalo. Thus, the zone (II-B) to be served by this canal was considered as an autonomous area (that is, not part of Upper or Lower Lalo). Meanwhile, plans for the three expansion zones were dropped after preliminary field investigations revealed that the quantity of water discharge from Lake Buhi which would be allocated to the left connector canal would be insufficient to irrigate the expansion areas. Moreover, a large section of Zone VI-B was deleted (and the remaining section merged with Zone VI-A) after the project office had confirmed that this area was part of the Barit River national system. These changes brought down the number of Lower Lalo zones to eight.

3. In late 1981, the NIA regional office advised the project office that four rotational areas in Zone IV-B were partly being irrigated by an existing communal system and would form part of the coverage of the Agos communal irrigation project. The deletion of these areas from the Buhi-Lalo project coverage took effect on February 1982 and resulted in the restructuring of a downstream zone (VI-A), and the assignment of the zone's remaining areas to other zones. Consequently, the number of zones in Lower Lalo was reduced to seven.

4. In March 1982, Zone II-B was reclassified as part of Lower Lalo, thus, increasing the Lower Lalo zones to eight. Moreover, the zones were renumbered to coincide with the water management district numbers (see Table A3 for details).

By March 1982, the Lower Lalo area had been increased to 2304 hectares (236 hectares of irrigated fields and 2068 unirrigated lands). This area was divided into 8 zones, with an average size of 288 hectares, and 84 rotational areas, or 10 to 11 areas to a zone. Of these rotational areas, 25 were to draw water from the new main canal of the Lower Lalo system, 50 from lateral canals, and 9 from the Lake Buhi left connector canal (see Table A1 for details). Once the Lower Lalo system became operational, NIA planned to divide it into four water management districts, with each district consisting of two zones (see Table A3 for details).

Project Thrust and Timetable

In both Upper and Lower Lalo areas, NIA intended to develop strong irrigators' associations which would operate and maintain the lateral canals and farm ditches, leaving NIA with only the operation and maintenance of the diversion works and main canal. NIA hoped that the process of developing irrigators' organizations prior to construction and fully involving these groups in the development of their irrigation systems would result in associations capable of taking on operation and maintenance responsibilities. (NIA also expects that in due time and with mutually acceptable arrangements and conditions, the associations would take over the operation and maintenance of the whole system from NIA.) Experience with communal systems indicated that the participatory approach was a promising one. Past efforts had shown that this method had

resulted in improved layout of canal networks, a layout which combined farmers' knowledge of the area with the engineers' technical expertise.[5]

To achieve its objectives in the Buhi-Lalo project, NIA initiated organizing activities which aimed to assist farmers in developing their irrigators' associations and to prepare them for their participation in system development activities. Farmers were informally organized first into rotational area, and then main- or lateral-canal groups. In Upper Lalo, these groups were involved in the planning, design, and construction of terminal facilities (farm ditches, turnouts, crossings, division boxes, checks, and drops) while in Lower Lalo they participated in the planning, design, and construction of the lateral canals as well as of the terminal facilities.

The informally organized groups provided the foundation on which the irrigators' associations at the zone level were developed. These zonal associations included an average of 300 farmer-members each, and would eventually be responsible for operating and maintaining system facilities within an average area of 290 hectares. Because a zone covered farms which would draw water from a common or adjacent laterals or from turnouts along an identified strip of the main canal, each association would then be charged with the management of water and irrigation facilities within a defined water-service area.

The schedule of NIA activities in Upper and Lower Lalo is presented in Table 1. It should be noted that when NIA implemented the participatory approach in the Buhi-Lalo project in November 1980, the rehabilitation work on the existing system in Upper Lalo was six months underway while the preconstruction activities in Lower Lalo had barely started.

Project Personnel

The Buhi-Lalo project staff was headed by a project manager, who supervised the operations of five divisions, namely: administrative, engineering, construction, equipment, and farmers'

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[5]Evidences of results of farmers' participation in participatory communal projects are found in process documentation research reports on three projects--Aslong (Illo, de los Reyes, and Felix, forthcoming) and Taisan in Camarines Sur and Siwaragan in Iloilo.

Table 1. Timetable of selected technical and institutional activities of the Buhi-Lalo project: November 1980 to December 1982

Selected activity	Upper Lalo	Lower Lalo
Organizing farmers at the rotational-area level	November 1980-June 1981 (7 months)	November 1980-October 1981 (12 months)
Determining the layout of terminal facilities (Upper Lalo) and lateral canals (Lower Lalo)	January 1981-March 1981 (3 months)	March 1981-December 1981 (9 months)
Undertaking construction surveys, negotiations for rights of way, and actual construction	April 1981-March 1982 (12 months)	January 1982-December 1982 (12 months)
Organizing farmers into irrigators' associations	July 1981-December 1981 (6 months)	November 1981-December 1982 (14 months)

assistance. Each division was administered by a division chief who was responsible for two to five sections (see Figure 4).[6] The chief of the engineering division concurrently acted as irrigation superintendent of the existing Lalo River system, supervising NIA personnel involved in the operations of the system.[7] The project staff engaged in field implementation constituted two groups: the community organizers (COs) and the technical staff (TS).

[6]In May 1982, the project manager became known as chief field engineer while the division chiefs, division managers.

[7]Prior to the implementation of the Buhi-Lalo project, NIA managed the existing Lalo system through the Office of the Barit River National Irrigation System. (The Barit system, another national system, is located west of the Buhi-Lalo project area.) To facilitate the coordination of project undertakings and the management of the Lalo system, in 1981 NIA transferred to the Buhi-Lalo project office the operations of the Lalo system.

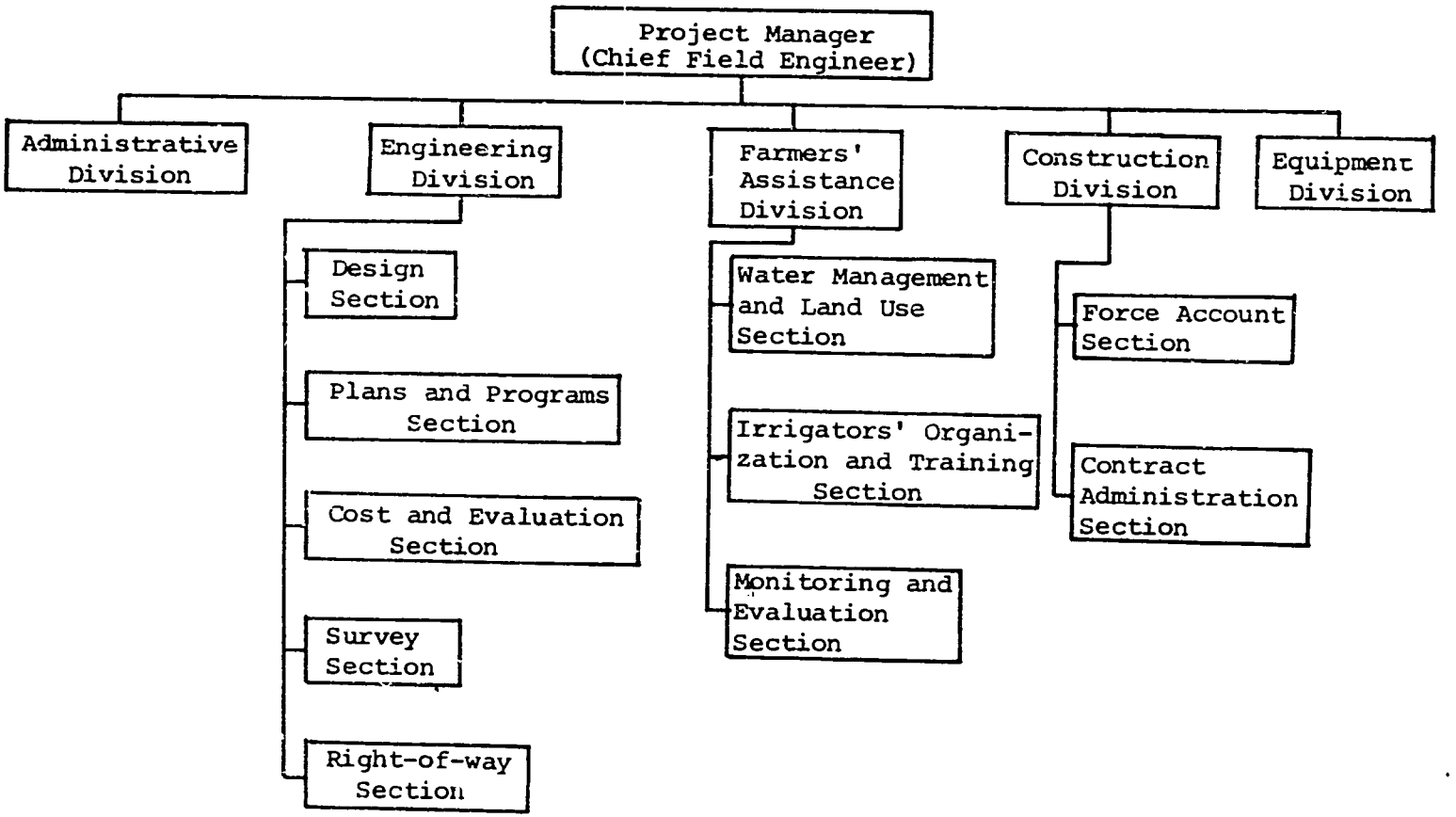

Figure 4. Organizational structure of the Rinconada/Buhi-Lalo project, 1982

Community organizers

In late 1980, the Buhi-Lalo project office recruited 15 COs (8 females and 7 males) to organize farmers into irrigators' associations and to prepare them for involvement in project activities. These NIA COs were reinforced by eight student COs (from the University of the Philippines' Institute of Social Work and Community Development) who spent five months (November 1980 to March 1981) in the area as part of their course requirements. Six NIA COs (together with four student COs) were assigned to Upper Lalo; nine NIA COs (along with four student COs) were deployed to Lower Lalo. All COs were under the irrigators' organization and training section of the farmers' assistance division. (But the student COs also received supervision from their academic advisers.) Because of the nature of their work, COs resided in their assigned zones.

Changes in COs and CO assignments. COs were deployed in November 1980 and had since been reshuffled or assigned to different zones, or replaced in their original zone assignment. Moreover, two COs resigned while the contract of two others were not renewed. The major changes in the assignments of COs were as follows.

1. Temporary deployment to other zones.[8] Between April 1981 and February 1982, the project office reassigned COs temporarily to zones which needed additional organizers. Thus in April 1981, five COs from the tail-end Lower Lalo zones were deployed to three Upper Lalo zones (see Table A4 for details). This move was precipitated by the Upper Lalo COs' concern that they might not meet the midyear organizing targets (that is, organizing farmers on the main- or lateral-canal level and preparing farmers for construction work) unless they get reinforcements.[9]

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[8]In December 1980, two student COs in Lower Lalo were transferred to another zone: one because the regular Zone III-B CO requested assistance and the other because his partner-CO declared his intention to work alone in the zone (in IV-B).

[9]Lower Lalo COs were fielded part-time in Upper Lalo because organizing work in their zones could not proceed until the paper location of canal lines was released by the project office (which took place in June 1981).

In two other instances, COs were deployed to a different zone either because their original zone was declared "second-priority" area or because organizing work in another zone had to be hastened to help avoid further delays in technical tasks.

2. Reshuffling of assignments. When the coverage of Lower Lalo was restructured in July 1981 and in February 1982, the number of zones was reduced which resulted in the reshuffling of zone assignment of COs at the downstream zones. The permanent assignment of two Lower Lalo COs to two Upper Lalo zones also caused changes in zone assignments of the remaining Lower Lalo COs.

3. Hiring of new COs. Between July and November 1981, new COs were hired for various reasons: to replace COs who had been promoted to supervisory position or assigned to a different zone, to assist a CO whose organizing area had expanded, or to replace COs who had either resigned or whose contract had not been renewed by the project office. By end of March 1982, the project office had hired five new COs, one of whom resigned after two months of stay in the field because of health reasons.

As of end of March 1982, the NIA had 16 COs working in the Buhi-Lalo project: 6 in Upper Lalo and 10 in Lower Lalo. Table A4 summarizes the distribution of COs from January 1981 to March 1982.

Training of COs. Prior to their deployment on 25 November 1980, COs underwent a 12-day training consisting of a two-day general discussions on theories of organizing, a five-day stay in two communal irrigation projects in Camarines Sur which had been developed using the participatory approach, and a five-day final session to discuss organizing principles and methods. The training took place at the NIA regional training center in La Trinidad, Iriga City. Following the training, COs spent three weeks in their assigned field sites. Armed with initial knowledge of their areas, they then returned to the Training Center to meet with the technical staff to devise an integrated technical and institutional work program for implementation in 1981. This workshop enabled COs and TS of a zone to plan and work together, particularly in Upper Lalo where construction activities were imminent.

COs had a second training on 25-27 February 1981 during the staff development workshop which TS likewise attended.[10] The participating TS included division chiefs, section heads and some assistants, and four Upper Lalo zone engineers. The workshop was convened jointly for COs and TS in view of the project office's desire to develop a harmonious working relationship among them. The workshop was aimed at providing both COs and TS additional knowledge and a deeper understanding of the concepts and skills of community organizing. Thus, COs could be expected to perform better in the field and TS would be able to appreciate COs' work. (Workshop proceedings are presented in detail in the Upper Lalo monthly documentation report no. 2.)

The project office hired three new COs in July 1981 and two more in November 1981. These COs were given one-day briefings at the project office and then received further guidance from their partner-CO. In December, these new COs were sent to San Rafael, Bulacan for a 15-day training session. (They joined community organizers who were scheduled to be fielded in other national irrigation projects.)

Supervision of COs. The Buhi-Lalo project was already six months underway when NIA decided to employ the participatory approach in the area. By then, the project's organizational structure had been established. To assist the project staff in the implementation of the participatory approach, NIA assigned two institutional development consultants to the project.

Until the end of June 1981, COs were supervised by the head of the project's irrigators' organization and training section and two institutional development consultants. The section head covered both Upper and Lower Lalo COs while one consultant took charge of Upper Lalo COs and the other, the Lower Lalo COs.

In July 1981, the consultants withdrew from the project and the section head was designated to take charge of Upper Lalo COs. The Lower Lalo COs' supervisor was chosen from among the existing COs through a process which combined the results of the project office's performance evaluation and COs' peer ratings. Zone III-A CO was selected but he resigned in December 1981. The farmers'

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[10]Except the one in Zone II-A, the student COs were unable to attend the workshop because of a school activity.

assistance division chief assumed temporarily the supervision of Lower Lalo COs. On 15 February 1982 project management asked COs to choose a new Lower Lalo COs' supervisor using the same method as that employed in July 1981. Zone II-B CO was unanimously identified for the position.

Technical staff

Personnel of the project's engineering, construction, and farmers' assistance divisions composed the technical staff. In general, they had joined the project earlier than COs because technical activities in Upper Lalo began ahead (May 1980) of institutional development work (November 1980).

Among TS, the members of the survey and design sections of the engineering division, and the zone engineers (ZEs) of the construction division frequented the project area. Moreover, personnel of the water management section of the farmers' assistance division often visited the Upper Lalo area. Of the four groups, ZEs coordinated more closely with COs and farmers because they were responsible for implementing the planned technical improvements within the zone.[11]

Because construction (which was suspended in late 1980) was scheduled to resume in March 1981 in four of the original Upper Lalo zones, ZEs were assigned to each of these zones in January 1981. A ZE was fielded to Zone II-B in April 1981 when construction in the area became imminent.

In Lower Lalo where construction was planned to start in December 1981, ZEs were assigned one to a zone in the upstream area beginning October 1981.[12] Then in January 1982 when construction

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[11]In Lower Lalo, the design and survey sections coordinated their field activities with COs and farmers in connection with the finalization of the location of canals and ditches. Until March 1982, construction activities were limited to the six upstream zones of the Buhi-Lalo area.

[12]In June 1981, a ZE was named to Zone III-A and another to Zones III-B and IV-A. Both were eventually relieved of their posts (see Illo and Felix 1982:12). Zones III-B and IV-A engineer was replaced in July 1981; Zone III-A did not have another ZE until January 1982.

activities declined in their original work areas, ZEs of Zones I-A, I-B, II-A, and II-C were assigned part-time to downstream zones of Lower Lalo. At that time, however, ZEs of III-B and IV-A had left the project. Thus as of end of March, only Zone II-B had a full-time engineer; the other zones had an engineer working part-time.

The Buhi-Lalo Documentation Research

Because the participatory approach was to be applied for the first time in a national irrigation project, NIA decided to have its field-level implementation documented. This decision rested on NIA's desire to learn what strategies were appropriate for rehabilitating an existing national system (in Upper Lalo) and for developing a new national system (Lower Lalo) through the participatory approach. In December 1980, NIA contracted the Research and Service Center (RSC) of the Ateneo de Naga to conduct the documentation research.

Content of the research

The documentation of activities in the Buhi-Lalo project was done from January 1981 through March 1982. The research covered the following project tasks in Upper Lalo: (1) securing farmers' participation in the review of designs of terminal facilities, (2) involving farmers in the construction survey for terminal facilities and in right-of-way negotiations, (3) engaging farmers in construction, and (4) developing informal farmers' organizations at the rotational-area level, and subsequently organizing farmers into zonal irrigators' associations. In Lower Lalo, the research focused on the following project activities: (1) securing farmers' participation in determining the location and layout of lateral canals and terminal facilities, (2) involving farmers in construction survey for lateral canals and terminal facilities and in right-of-way negotiations, (3) preparing farmers for participation in construction activities, and (4) organizing farmers at the rotational-area level.

The research aimed (1) to reveal the process by which irrigators' organizations were developed in the area, (2) to specify the ways in which farmers were involved in planning their respective lateral canals (in Lower Lalo) and terminal facilities (in both Upper and Lower Lalo), and (3) to derive lessons which could help NIA identify the operational requirements for the implementation of the participatory approach to national irrigation system development.

To reduce the research into manageable proportions, NIA and RSC agreed that detailed documentation of project activities would be undertaken in two Upper Lalo zones (I-A and I-B) and in another two Lower Lalo zones (III-B and IV-A). In the documentation zones, research efforts focused on the activities of three groups involved in project implementation: the NIA community organizers (COs), the NIA technical staff (TS), and the farmers covered by the irrigation project.

The common set of activities which were documented in the Upper and Lower Lalo research sites were the following.

1. Activities of COs. These included how a CO mobilized farmers for an activity, what the COs' bases for mobilization were, how a CO coordinated his activities with those of TS, and what role a CO took when farmers performed an activity.

2. Activities of TS. These included what specific tasks TS undertook, how TS coordinated their tasks with those of COs and farmers, who among the farmers TS dealt with, what commitments TS made to farmers and how these were met, and what roles TS took when farmers performed an activity.

3. Organization and activities of farmers. These were grouped into the following topics.

   a. Organization and activities of the working committees. These included the kinds of committees organized, bases for organizing each committee, selection of committee membership, functions of each committee, and performance of committee members.

   b. Nature of farmers' participation in determining the location and layout of terminal facilities. These included the kinds of activities undertaken in connection with the design of terminal facilities, participants in the activity, bases for grouping farmer-participants, kinds of alterations farmers made in the design, and kinds of farmer-suggested alterations accepted or disapproved by TS.

   c. Nature of farmers' participation in obtaining right of way (ROW) for terminal facilities. These included the strategies employed to obtain ROW permits and to deal with those who refused to provide ROW for terminal facilities.

Additional activities covered in Upper Lalo were as follows.

1. Nature of farmers' participation in the construction of terminal facilities. These included the bases for grouping farmers who participated in construction, characteristics of the leaders of farmers' groups, work and pay arrangements that TS and farmers observed during construction, and records that TS and farmers kept with regard to these arrangements.

2. Formation and organization of irrigators' associations. These included the bases for organizing farmers into associations, determination of association membership, characteristics of association leaders, and evolution of farmers' groups into associations.

In Lower Lalo, the research also focused on the following topics:

1. Nature of farmers' participation in determining the location and layout of lateral canals. These included the kinds of activities undertaken with regard to the design and location of lateral canals, participants in the activity, bases for grouping farmer-participants kinds of changes farmers made in the design, and kinds of farmer-suggested changes accepted or disapproved by TS.

2. Nature of farmers' participation in obtaining ROW for lateral canals. These included the strategies employed to obtain ROW permits and to deal with those who refused to donate ROW for lateral canals.

3. Nature of farmers' participation in designing the lateral canals and/or terminal facilities. These included the specific tasks farmers undertook in connection with spot map preparation, and the bases for grouping farmer-participants in the activity.

Methodology

To document the process of project implementation, RSC fielded two participant-observers in mid-January 1981: one each to Upper and Lower Lalo. Starting in June 1981, however, an additional

participant-observer was sent to Upper Lalo because of the intense level of activities in that area.[13]

The field data were obtained primarily through participant-observation. This research technique dictated that the researcher observed and recorded the tasks and responses of project participants during both formal and informal activities. The participant-observers, therefore, resided in the documentation zones; one stayed in Salvacion, Iriga City (in Lower Lalo, Zone IV-A) and the other, in San Francisco, Buhi (in Upper Lalo, Zone I-A). They were present during project activities like meetings, sharing sessions among farmer-leaders, walk-throughs, surveys, and NIA-farmer negotiations. If unable to be present, the researchers collected information on the completed activity from COs, TS, and/or farmers who attended the particular event. In addition, the participant-observers conducted unstructured interviews with project participants on issues and/or problems which emerged during the documentation period.

Each month, the data collected by the participant-observers were written up in a report. In all, 15 reports had been completed separately for Upper and Lower Lalo as of end of March 1982. A typical monthly report covered: (1) areas(s) of COs' work concentration, (2) project activities, and (3) issues and/or problems which emerged during the month. Before the reports for a particular month were finalized, they were subjected to a week-long review by COs assigned to the documentation zones, and several members of the project management staff.[14] Comments were then discussed with members of the research team who later incorporated into the report the COs' and other project staff's comments.

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[13]The first two participant-observers fielded in Upper Lalo were females. One left the research project because of her studies; the other, for health reasons. The two participant-observers hired in June 1981 were both males. The researcher who covered Lower Lalo for the duration of the research was also male.

[14]The research team tried two review strategies during the research period: convening a meeting with the project personnel concerned, and consulting separately with the project personnel concerned about the latter's comments. At least three review meetings were held; the second strategy was followed in most months.

The research sites

The research team focused their documentation of project activities on Zones I-A and I-B of Upper Lalo, and Zones III-B and IV-A of Lower Lalo. The research area coverage in Upper Lalo remained the same throughout the research period; in Lower Lalo, the documentation zones underwent several changes.

Upper Lalo. The Upper Lalo documentation zones were contiguous areas covering about 514 hectares. Zone I-A extended over three barangays in the town of Buhi (Antipolo, San Francisco, and San Isidro) but a large section of it was found in San Francisco. Zone I-B covered portions of four barangays also in Buhi (San Francisco, San Isidro, Santa Isabel, and San Jose-Salay) but the greater part of the zone was located in Santa Isabel.

San Francisco and Santa Isabel were linked to each other and to other barangays in Upper Lalo by a network of roads, most of which had not been served by public utility vehicles. Both were rice-growing communities; their irrigated rice farms obtained water from the existing Lalo system. Most residents derived all or a greater portion of their income from rice production. A majority of the rice farmers in the area were either share tenants (34 percent) or owner-cultivators (25 percent); the rest were multiple-status farmers (18 percent), lessees (15 percent), or tillers paying for their land with the Land Bank of the Philippines (8 percent). For either commercial or consumption purposes, residents also grew vegetables and coconut and they tended backyard poultry, livestock, and small-scale fishponds which were adjacent to rice plots. Farm products for sale were taken to the town center during market days on Tuesdays and Fridays. In terms of dialect spoken, San Francisco residents spoke predominantly Bikol-Buhi while Santa Isabel residents used Bikol-Iriga.

The topography of the documentation zones differed. About one-third of Zone I-A had uneven terrain. In contrast, Zone I-B area was almost uniformly even; its uneven portions were planted to coconut and were not expected to be converted to irrigated ricelands.

Lower Lalo. While the two Upper Lalo documentation zones had remained unaltered throughout the research period, the two Lower Lalo documentation zones were redefined at various times. In April 1981, the project design section estimated the area of these zones to be about 594 hectares, with 10 and 7 rotational areas constituting Zones III-B and IV-A, respectively. By end of

March 1982, however, the documentation zones had been defined to cover about 623 hectares, with Zone III-B comprising 13 areas while Zone IV-A had 11. Moreover, between April 1981 and March 1982, the extent of the coverage of these zones fluctuated. And between April 1981 and January 1982, the design section (or TS) and the farmers' assistance division differed in their delineation of areas which composed the zones.

The changes in area coverage and the differences in the rotational-area composition as defined by the design section and the farmers' assistance division stemmed from the following.

1. The project design section sought to define a zone as a hydrologically meaningful area. As data were received from either the survey section, from farmers or from both sources, the project office found out that certain areas could not be reached at all; or they needed to be reached by a different route, such as receiving water from a different lateral; or from the main canal rather than from a lateral. The project office thus continually redefined the area coverage of a particular zone.

2. At the start of COs' deployment, the farmers' assistance division assigned COs according to the design section's initial estimate of the boundaries of the zone. COs became acquainted with the farmers in that area. When the design section redefined the zone, the CO did not immediately disconnect his involvement with the farmers with whom he had done his initial work. The CO, therefore continued to work with them for a while, and defined the zone to fit his work area. Eventually, however, the COs adjusted their definitions of the zones to match the TS' hydrologically defined zones, inasmuch as the latter will become the functional units in terms of operation and maintenance. (For illustrative cases, see Table A5.)

The changes in the rotational areas covered by Zones III-B also altered the barangay compositions of the zone. In April 1981, about 90 percent of the Zone III-B areas were located in San Antonio, Iriga City, with the remainder in La Trinidad, Iriga City. By end of March 1982, Zone III-B had extended to two more barangays of Iriga City, Salvacion and Santa Cruz, though San Antonio still accounted for the largest portion of the zone.

Meanwhile, despite the modifications in the rotational-area composition of Zone IV-A, the barangays covered by the zone remained as follows: Salvacion and San Antonio (Iriga City), Masoli and Niño Jesus (Bato), and Lourdes Old and Lourdes Young (Nabua). As in January 1981, the largest section of the zone was located in Salvacion, Iriga City.

San Antonio and Salvacion were about 6 to 7 kilometers away from the city center. Most of its residents engaged in rainfed rice farming. The rice farmers of the two communities were distributed as follows: share tenants, 36 percent; owner-cultivators, 29 percent; multiple-status farmers, 29 percent; lessees, 5 percent; and, amortizing owners, 1 percent. These farmers also grew root-crops, coconut, vegetables, and fruit trees, and tended poultry and livestock. Agricultural production was earmarked for both market and household consumption. Farm products from San Antonio and Salvacion were usually taken to the city center during the city's marketdays--Mondays and Thursdays.

II. PROJECT ACTIVITIES IN UPPER LALO

Upper Lalo comprised the area served by the existing Lalo River irrigation system which the project began to rehabilitate in July 1980. It was initially defined as covering five zones with a total of 1100 hectares but it was later redefined to cover three zones with 870 hectares. By December 1980, some access roads and farm-level canal structures (mainly turnouts and division boxes) had been built in the area. In January 1981, however, project management suspended construction work so that farmers could be organized for participation in system rehabilitation tasks. Construction activities were resumed in April, or about four months after COs had been fielded in the area. From then on, COs and TS worked with farmers in formulating and implementing plans for system improvements. Moreover, COs assisted farmers in developing their irrigators' associations which were expected to undertake partial system operation and maintenance responsibilities upon completion of rehabilitation work. This chapter discusses the organizing and technical activities which took place between late November 1980 and March 1982 in two Upper Lalo zones (I-A and I-B). An overview of the stages of organizing work precedes the discussion.

Stages of Organizing Work

The project aimed to develop farmers' capability for undertaking partial operation and maintenance of the Upper Lalo system (that is, joint management of the system with NIA) by involving them in the rehabilitation of system facilities as well as in the development of their irrigators' associations. To achieve this objective, the project drew up an organizing plan which consisted of three progressive stages: organization of farmers by rotational area, by canal, and by zone.

The plan was founded on the expectation that a zone (covering about 250 hectares) would be sufficiently large to constitute a meaningful area for water management and system maintenance, and would provide a formal irrigators' association significant tasks to maintain its interest and involvement. However, to ensure broad participation and a strong membership base in the formal association, the project considered it important to first develop informal farmer-groups on the basis of smaller area coverages.

Hence, rotational-area groups (each covering about 30 hectares) were to be formed initially; these were to be organized subsequently into canal groups (each covering about 100 hectares) which would be finally formed into zonal associations. It was also expected that the zonal associations might eventually federate in order to manage the entire system.

The plan therefore called for organizing rotational-area groups immediately after COs were deployed to their respective zones in late November 1980. A rotational-area group would consist of farmers who derived water from one turnout along the main canal or a lateral canal within a zone. This group would manage the irrigation facilities found in its own area once NIA turned over partial system operation and maintenance to the zonal irrigators' associations. Canal groups would be formed beginning July 1981. A can group would be composed of several rotational-area units (an average of three) served by the same canal. It would oversee the operation and maintenance tasks undertaken by its units. The organization of canal groups in a zone into one formal irrigators' association was to start in January 1982. By then, the association would have elected its officers and ratified its bylaws, and would be registered with the Securities and Exchange Commission. This association would be responsible for managing the irrigation operations within the zone, including coordinating with NIA on matters pertaining to these operations.

In accordance with the first stage of the plan, Zones I-A and I-B COs delineated farmers' groups on the basis of the rotational-area concept. This task was facilitated by the availability of (1) a zone parcellary map (provided by the project office) showing the boundaries of rotational areas, the locations of farmers' lands, the layout of existing canal lines and structures, and proposed (paper location) farm ditches and other terminal structures; and (2) preliminary lists of water users (provided by the Lalo River system watermasters) drawing water from the same turnout.

While organizing at the rotational-area level, however, COs divided the rotational-area groups into even smaller units--the farmers who obtained water from a supplementary farm ditch (SFD). An SFD group was composed of about 14 farmers who tilled a total of about 7 hectares. COs found out that it was easier to mobilize SFD groups to accomplish certain project tasks because these groups involved a fewer number of farmers. Moreover, particularly with regard to technical activities which concerned farm ditches,

COs found it both appropriate and effective to encourage the participation of SFD groups because they were the direct beneficiaries of these facilities. Thus, especially between January and June 1981, COs focused their organizing efforts on these groups.

By July 1981, Zone I-A COs had grouped the rotational-area and ditch leaders in the zone into two: main and lateral groups. These leaders' groups conducted separate meetings to plan for and coordinate the activities of their respective rotational-area members. Then in August 1981, the two groups started meeting as one zonal group although they still continued to hold separate meetings until November 1981. Zone I-B COs, in turn, mobilized all rotational-area and ditch leaders in the zone to meet as one group beginning August 1981. Thus, although leaders in both zones met either as main canal, lateral, or zonal groups, mobilization of farmers for project activities remained at the rotational-area level.

In December 1981, members of each zone were organized into a formal irrigators' association. In their general assembly held during the month, the association members ratified their bylaws and articles of incorporation. They also elected all (Zone I-A) or a majority (Zone I-B) of their zonal officials, namely: members of the board of directors, members of the four standing committees, and the main canal and the lateral canal watermasters. After the assembly, the board elected from among its members the association officers consisting of the president, vice-president, secretary, treasurer, and/or auditor. By March 1982, the zonal irrigators' associations had presented to NIA their respective terms and conditions for undertaking joint management of the Lalo River system with NIA. Negotiations between each zonal association and NIA were scheduled to be completed by June 1982. It was expected that in July 1982 the two parties would formalize in a contract their agreements regarding system operation and maintenance.

Organizing Farmers for System Improvement Activities

When COs began working in their assigned zones, they did not immediately cover all rotational areas in the zone. Rather, they first worked in two or three areas. When farmers in these areas became sufficiently organized, COs initiated work in other areas but they continued to assist the farmers in areas they had previously covered.

In each rotational area, COs initially familiarized themselves with the community and sought to elicit opinions of farmers about the project as well as their problems particularly with regard to irrigation. Subsequently, COs mobilized farmers to participate in three key tasks: (1) verifying whether or not the farmers included in the lists provided by the Lalo River system watermasters were actual cultivators of farms in the area, (2) identifying farmer-leaders, and (3) convening farmers' meetings. These tasks were preparatory to involving farmers in planning and constructing the terminal facilities in their respective areas. After construction, however, COs continued to mobilize farmers for these tasks; by then, farmers' involvement in these tasks centered on their expected participation in system operation and maintenance.

COs' integration and groundwork

During the first three weeks after their deployment on 25 November 1980, COs concentrated on integrating with the communities covered by their respective zones. This activity was aimed at familiarizing themselves with the physical and social features of these communities. COs learned the network of roads in a zone, determined the boundaries of the entire zone and of its communities, and inspected the system's facilities and fields to know the coverages of rotational areas in the zone. They also introduced themselves to the people in a community by paying courtesy calls on barangay officials, talking to farmers whom they met while doing the rounds, visiting farmers in their homes and farms, and attending community gatherings (such as barangay meetings) and private functions (like birthday and marriage celebrations) to which they were invited.

In January 1981, COs began groundwork with farmers who belonged to rotational areas which they had started to organize in their zones. COs initially sought from farmers an articulation of their problems pertaining to irrigation and the system. The major problems cited by farmers included lack of irrigation water for tail-end farms, presence of illegal turnouts, NIA ditchtenders' neglect of their duties to maintain system facilities, nonfunctional or dysfunctional canal structures, high irrigation fees, and unfair irrigation-fee collection practices such as collectors' failure to issue receipts to payers and NIA's failure to adjust fees for farms that had decreased in size owing to system improvements. COs and farmers also discussed these problems. In their discussions, COs elicited the farmers' perceived solutions to these problems.

In introducing the project to the farmers, COs emphasized its participatory goals and helped the farmers see that these goals were supportive of their needs. For example, COs stated that farmers' concern for adequate irrigation water supply would be met once the system was rehabilitated. And by their participation as an organized group in the project's rehabilitation efforts, particularly concerning the design and construction of their own terminal facilities, farmers could make sure that they would have the facilities they required and that their farms would be served by these facilities. In addition, the farmers' desire for a better-managed system could be met by the project's objective of eventually assigning partial system operation and maintenance responsibilities to irrigators' associations. Through their associations, farmers would have a direct hand in running their system facilities to their satisfaction.

Finally, as soon as farmers had recognized and accepted the advantages that they could derive from the project, COs mobilized them to take concrete steps to realize these advantages. The steps called for farmers to organize into and meet as a rotational-area group, select their leaders, firm up their membership list, participate in the project's various organizing and technical tasks, and settle issues or problems related to these tasks.

Validating rotational-area and zonal membership lists

While integrating with the communities in their zones, COs began to verify the NIA-provided lists of farmers for each rotational area they covered. The lists which COs had obtained from the system's watermasters contained the names of persons who were billed for the use of irrigation water but who might or might not be the actual cultivators of fields in the system. For instance, these lists did not include the names of cultivators of fields for which the landowners were the ones who settled the irrigation bills. Moreover, the NIA lists repeated the names of farmers who tilled more than one farm lot within either a rotational area or a zone. COs' effort to validate the lists, therefore, focused on eliminating the duplication of names and adding names which had not previously been included.

Validation of lists was done until the exact number of farmers in the rotational areas, which would indicate the total

membership size in a zone, was determined. Knowing who and how many belonged to an area was important to the COs' as well as leaders' tasks of conducting groundwork with members and mobilizing these members to participate in project undertakings. Accurate listings of rotational-area members would also be needed by zonal irrigators' associations when these groups begin to handle system management tasks like collecting irrigation fees and other dues from members and dividing or assigning system maintenance responsibilities among members. Thus, during the documentation period, COs validated the NIA lists thrice: the first occurred from late November 1980 to July 1981; the second, from August to December 1981; and the third, from January to March 1982.

1. The first validation phase (late November 1980 to July 1981) was aimed at determining who among the farmers in the NIA lists were actual tillers of farms in the rotational areas and who among the tillers of fields in these areas were not included in the lists.[15] The procedures which Zones I-A and I-B COs adopted were as follows. Zone I-A COs began to validate the lists by asking potential leaders to submit the names of their respective group members. Then, they checked the farmer-prepared lists against those of NIA. During the first meeting of a rotational-area group and in the course of their groundwork, COs conferred with farmers to reconcile the data differences between the two lists. In turn, Zone I-B COs inquired from potential leaders and members of SFD groups if the names in the NIA lists were those of farmers who belonged to their groups.[16] This process was repeated in the first meeting of a rotational area; its results were verified further by COs during subsequent groundwork activities.

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[15]With regard to farmers who did not own the fields they tilled, COs also obtained the names of their landowners particularly if the landowners were the ones who paid the irrigation fees.

[16]Between February and April 1981, farmers in two Zone I-B rotational areas created membership committees to undertake the validation work. The committee chairmen were elected in February; their members (at least one representative per SFD group) were selected in March or April. However, COs and/or farmer-leaders in these areas continued the task of validating farmers' lists. Thus, none of the membership committees became functional.

The NIA lists provided to COs contained a total of 302 farmers for Zone I-A and 453 farmers for Zone I-B (see Table A6). Validation of these lists and of those prepared by COs and farmers resulted in the inclusion of new names and the exclusion of others. By July 1981, a total of 44 names (38 in Zone I-A and 6 in Zone I-B) were stricken off the lists because of any of these reasons: (1) farmers had fields in more than one rotational area and they had been listed already in the rotational area of their choice, (2) they had fields in more than one SFD area within a rotational area and they had been listed already as members of the SFD group of their choice, (3) they had returned the lots they cultivated to their owners who had been listed already as rotational-area members, or (4) they had refused to join the Upper Lalo system because of their existing membership in the San Rafael communal system (adjoining Zone I-A).

By end of July 1981, the validated lists for Zone I-A included 369 farmers (an increase of 67 over the NIA estimate) while those for Zone I-B had 424 farmers (a decrease of 29 from the NIA estimate).

2. The second validation phase (August to December 1981) involved reconfirming the lists which were validated in July. At the end of this second validation, the total number of farmers in Zone I-B remained at 424. However, in Zone I-A, shifts in the designs for four rotational areas and changes in farmers' tilling arrangements in one area resulted in an increase in the zone's membership, from 369 to 380 (see Table A6).

3. The third validation phase (January to March 1982) was aimed at determining the exact number of members in a zone. For this purpose, farmers of a rotational area were classified according to residence and nonresidence in the area where they cultivated a farm. Moreover, farmers who tilled a farm in more than one rotational area were asked to choose the area where they wanted to be listed as members. The selected area could be one which was more accessible to the farmers or where they intended to participate more actively. (However, the rotational-area lists continued to contain the names of all tillers of farms in the area, with each tiller identified as resident, nonresident, or member of another area.)

In Zone I-A, this validation took place in January 1982 during meetings convened by COs and farmer-leaders. It resulted in the identification of 306 farmer-members of the zone, 77 percent of whom were residents of the rotational area where they farmed. In Zone I-B, in turn, COs and farmer-leaders undertook the validation during their groundwork activities. As of end of March 1982, validation of lists for two rotational areas had yet to be completed. The validated lists for the other seven areas showed an aggregate membership of 236 farmers, 72 percent of whom resided in the rotational area where they cultivated a farm.

Thus by end of March 1982, two COs worked in a zone of about 260 hectares cultivated by about 300 farmers. A zone was divided into 8 or 9 rotational areas, with an area covering around 30 hectares which were tilled by about 40 farmers (see Table 2).

Table 2. Selected information on Upper Lalo documentation zones: 31 March 1982

Information	Zone I-A	Zone I-B
Total size of the zone (in ha.)	257	256
Total number of farmers in the zone[a]	236[b]	306
Number of rotational areas	9	8
Average size of rotational area (in ha.)	28	32
Average number of farmers per rotational area	39	44
Number of COs assigned to the zone	2	2

[a]This refers to the number of farmers reported in the validated membership lists for the zone as of end of March 1982.

[b]This figure excludes the number of farmers in two rotational areas which had yet to complete the validation of their membership lists as of end of March 1982.

Identifying rotational-area farmer-leaders

The selection of farmer-leaders in every rotational area of a zone constituted the preliminary step in building indigenous leadership capabilities in the irrigators' associations to be formed in the zone. It was undertaken first by COs who identified their "contact leaders" (potential leaders of rotational areas) and who also assessed the performance of these leaders. Farmers themselves subsequently elected and/or appointed their own rotational-area leaders and, together with COs, also assessed these leaders' performance.

Much effort and time were expended in the selection and assessment of farmer-leaders on the rotational-area level for they were considered as the moving force of the irrigators' associations. It was expected that the strength of the associations rested on the ability of the rotational-area leaders, from whom the association officials would be derived, to solicit their members' confidence and respect, and to motivate their members to take concerted actions. Thus, COs deemed it important to tap and develop these leaders' potentials. Likewise, they considered it necessary to ensure that these leaders were task-oriented and fully committed to leadership, not to the prestige attached to the leadership positions. To achieve these goals, COs continuously gave their attention on the leaders' performance. They also encouraged farmers to do likewise.

COs' selection of contact leaders. Upon deployment in November 1980, COs started identifying potential farmer-leaders who could serve as their contact or link with members of an entire rotational-area group and/or of ditch groups within a rotational area. They initially picked out their contact leaders from among the established community leaders, that is, farmers who were incumbent or past leaders and members of barangay and other community organizations.[17] As COs became acquainted with more farmers in a rotational area, they expanded their contact leaders to include those whom they had observed to be: (1) trusted and respected

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[17]As in most Philippine villages, the barangay organizations in the Buhi-Lalo project area include Samahang Nayon, Barangay Council, Barangay Lupon, and Barangay Tanod. Other community organizations include Producers' Cooperative Marketing Association, Agrarian Reform Beneficiaries' Association, and Pastoral Council.

in the community, (2) able to deal with peers, (3) influential, vocal, and witty, and (4) willing to commit or sacrifice their time for the people and the project.

Before the election or appointment of leaders, COs relied on their contact leaders to assist them in mobilizing farmers for project tasks. Because contact leaders assumed leadership roles during these early project activities, they were among farmers' popular choices for available leadership positions in a rotational area. However, unless contact leaders had been elected or appointed by farmers, they were not regarded by both farmers and COs as legitimate representatives of farmers' groups. Hence, they did not belong to the accepted circle of leaders in a rotational area and were excluded from these leaders' formal activities.

In the documentation zones, COs identified a total of 96 contact leaders between January and July 1981. Of this number, 15 (or 16 percent) did not become active or were unable to perform leadership tasks owing to constraints like poor health, nonresidence in the area, and preoccupation with farm duties while 55 (57 percent) were elected or appointed by their fellow farmers to leadership positions in the rotational areas. The remaining 26 (27 percent) were not elected or appointed to leadership positions, and hence, were no longer encouraged by COs to assume leadership in project-related activities.

Election and/or appointment of farmer-leaders. During their early groundwork activities in a rotational area, COs and contact leaders enhanced farmers' awareness of the need for leaders and motivated farmers to select these leaders. In discussing this need with farmers during the farmers' first rotational-area meetings, COs and contact leaders highlighted the following points. Farmer-leaders would serve as farmers' sources of information on the project, representatives in dealing with NIA and other farmer-groups, and arbiters in times of conflicts or problems. They would also be COs' advisers on matters pertaining to a rotational-area or ditch group and means to reach farmers extensively. Moreover, COs recommended that each rotational-area group should have one leader and each ditch group, one or two leaders. The farmers accepted COs' recommendations but generally added an assistant for each ditch leader.

In the documentation zones, farmers selected their leaders either by election or appointment. Election was the mode they utilized in choosing a majority (65 percent) of the leaders. This was done during their rotational-area meetings. Appointment, on

the other hand, was the means resorted to when farmers lacked the time to call meetings for elections before the farmer-leaders' conferences held in May and June 1981. (These conferences were convened in preparation for the farmers' negotiations with NIA on the system operation and maintenance arrangements; see final section of this chapter.) Before appointment was made, COs conferred with elected or contact leaders to discuss the possible nominees. In some instances COs suggested or recommended the candidates.

As his position suggested, the rotational-area leader headed the rotational-area group (the membership of which ranged from 12 to 74 farmers in Zone I-A and 25 to 78 farmers in Zone I-B). He was the first person approached by COs and TS regarding project matters. He led the ditch leaders in his area and planned the area's activities with them, COs and/or TS. The ditch leader, in turn, headed a specific ditch group (with membership ranging from 4 to 32 in Zone I-A and 5 to 15 in Zone I-B). He closely coordinated with the rotational-area leader, in particular, and with other ditch leaders. The assistant ditch leader helped the ditch leader in fulfilling his commitments and took the place of the ditch leader in his absence.

Apart from undertaking the roles attached to their position, the rotational-area leaders were the signatories to their respective area's construction contracts (see section on construction). Together with ditch leaders, they also assumed additional titles and/or responsibilities as committee chairman or member, acting secretary, and attendance checker during construction. Leaders often ended up chairing or becoming members of committees because these committees were formed after the leaders' election or appointment.[18]

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[18]During the period of organizing into rotational-area groups (January to June 1981), two of the nine Zone I-A rotational areas and three of the eight Zone I-B areas formed at least one committee. The committee chairmen and/or members were composed of farmers' elected leaders, COs' contact leaders (most of whom became farmers' appointed leaders in June), and farmers without leadership positions. The last group did not belong to the leaders' category. In fact, some of them were chosen not because they possessed potential leadership capabilities, but because they had other qualities viewed as necessary for membership, such as youth and runner's stamina (matibay magdalagan) in the cases of Zone I-B RALAT-B and RALAT-C information-dissemination committee members.

Following the election or appointment of farmer-leaders, COs observed (or, in the case of former contact leaders, continued to observe) their performance of leadership functions. COs were particularly interested in the leaders' ability to (1) conduct groundwork with other farmers on issues discussed in meetings, (2) disseminate information particularly after farmers' meetings, (3) mobilize farmers for activities such as meetings, walk-throughs, and construction, and (4) participate actively in these activities. Their observations allowed them to gauge the leaders' capabilities and to provide them the necessary guidance (for instance, suggesting which issues to thresh out during groundwork) and emotional support (such as, boosting their morale).

During groundwork, COs also verified with farmers (and other leaders) their observations concerning a leader. They elicited the farmers' own assessment of the leader's performance of tasks. In some cases, COs and farmers discussed whether or not there was a need to replace the leader. By their example, COs encouraged farmers to make a careful assessment of leaders and emphasized to them the importance of this assessment in ensuring a good selection of leaders. Thus, farmers themselves subsequently brought up to COs a leader's deficiencies and recommended his replacement when it was not possible to remedy the deficiencies. As leaders became conscious of the assessment process, those who considered themselves unable to exercise leadership functions asked to be relieved of their position.

In the documentation zones, a total of 141 leaders (74 in Zone I-A and 67 in Zone I-B) were elected or appointed between January 1981 and March 1982. However, 39 of them were dropped from the leaders' roster for any of these reasons: they were inactive; they themselves asked to be excused or had resigned from their positions because of poor health, old age, or need to attend to family and farm obligations; they ceased to be members of the rotational-area or ditch group because of revisions in ditch lines; and they were nontillers of farms in the system. Moreover, 30 were no longer considered as rotational-area leaders after they were elected as zonal officials. Thus as of end of March 1982, there were 72 elected and appointed rotational-area leaders in the documentation zones (see Table A7). These leaders, together with 39 others who held positions in the zonal associations, represented about one leader for every six farmers.

The rotational-area and ditch leaders were all male, about 40 years old, and had received an average of six years of formal education. They tilled around 1.1 hectares each. More than

half (57 percent) were share tenants while another 33 percent were owner-cultivators. The rest were either lessees, amortizing owners, or had multiple tenurial status (for example, owner-cultivator in one parcel and tenant, lessee, or amortizing owner in another parcel or two). Four of every five leaders either had previous or present involvement with other barangay organizations (such as, Parent-Teachers' Association, Samahang Nayon, Barangay Council).

Convening farmers' rotational-area meetings

Gathering farmers of a rotational area in a meeting was important for a number of reasons of which the major ones are the following. First, the meeting provided a setting where members and leaders with diverse interests could formally share and exchange ideas or opinions, discuss issues and plan for concerted actions, or thresh out problems and agree on solutions for the common good. Second, agreements or decisions which COs and/or farmer-leaders had reached with individual farmers during the former's groundwork activities were formalized in the meeting. And third, the meeting facilitated the dissemination of information, particularly major decisions, from NIA to the farmers, and from the leaders to their members.

Convening a rotational-area meeting involved four steps: planning for the meeting, notifying farmers about it, conducting the meeting, and assessing the meeting through an action-reflection session usually held after its adjournment.

Planning for meetings. The first meeting in a rotational area was planned by COs and their contact leaders during the former's groundwork activities. COs initially endeavored to help the leaders realize the need for farmers in the area to meet as a group so that they could discuss project matters. Following this, COs and leaders informally planned the details of the farmers' initial meeting.

Once the leaders of a rotational area were elected or appointed, COs encouraged them to undertake a formal planning session prior to holding a farmers' meeting in their area. This process was employed particularly for meetings held until July 1981. In instances when the leaders were unable to convene a session to plan for a meeting, COs visited each of them. If it was impossible to contact every leader concerned, COs sought at

least the rotational-area leader so that they could draw up preliminary plans. The rotational-area leader, in turn, finalized the plans with other leaders.

After July 1981, when the rotational-area groups had been formed and COs' organizing work moved to the zonal level, the rotational-area and ditch leaders of a zone jointly planned meetings. Then beginning January 1982, the zonal association officers, who represented different rotational areas in a zone, jointly planned and coordinated the conduct of meetings in their respective rotational areas.

Between January 1981 and March 1982, farmer-leaders in the documentation zones convened a total of 38 sessions to plan for meetings, or about two sessions per rotational area. During these planning sessions, decisions were made regarding a meeting's date, time, venue, agenda, and the discussants of each agendum as well as the means for notifying members. In most of these sessions, COs were present to assist in drawing up the agenda for the planned meeting and to suggest ways for presenting or discussing these in the meeting. Moreover, other leaders and members who were not directly involved in a session also joined and observed some of the planning sessions.

Notifying farmers about meetings. Having planned for a meeting, COs and/or farmer-leaders then notified the members about it. In January and February 1981, COs conducted much of the notification task (see Tables A8 and A9). But following the election of farmer-leaders, COs drew them into assuming the task. By March 1981, the leaders did the notification themselves. COs occasionally followed up the leaders' work and reminded farmers they met of a scheduled meeting.

A common way of notifying farmers about a meeting was for leaders and/or COs to discuss the meeting while undertaking house-to-house calls during groundwork. Another was by requesting some farmers to tell others. (Members who operated small variety stores or rice mills were often asked to do this because their business establishments were gathering places.) The third way was by circulating a written notice or letter inviting farmers to a meeting and asking the signatures of those who had read it.[19]

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[19]Two Zone I-B rotational areas each created a committee to help the leaders undertake the notification work. The committees were composed of young farmers.

Conducting meetings. Between January 1981 and March 1982, a total of 120 meetings were held in the rotational areas of the documentation zones, or a meeting every two months in a rotational area. These meetings were attended by about 51 percent of the farmers belonging to areas where the meetings occurred. Of those who came, approximately 39 percent participated in the discussion (see Table 3).

The first meeting convened in a rotational area was presided over either by COs or their contact leaders. However, even when the meetings were handled by the contact leaders, COs took part in most of the discussions because these leaders felt inadequate to

Table 3. Selected information on farmers' participation in meetings convened in the Upper Lalo documentation zones: January 1981 to March 1982[a]

Information	Zone I-A	Zone I-B
Total number of farmers (as of 31 March 1982)	236[b]	306
Number of farmers occupying leadership positions (as of 31 March 1982)	30	42
Total number of meetings convened in the zone	71	49
Average number of farmers expected during a meeting in a rotational-area	40	48
Average percent of farmers in the area attending convened meetings	54	47
Average percent of farmer-attendees who participated during discussions	37	40

[a]The figures presented in this table were derived from data contained in Tables A6 to A8.

[b]This figure excludes the number of farmers in two (of the nine) Zone I-A rotational areas which had yet to complete the validation of their membership lists by end of March 1982.

introduce the project. Following the election or appointment of leaders in an area, the leaders themselves took over the conduct of meetings. At first, however, they usually asked COs to assist in explaining the agenda or in facilitating the discussion because they professed lack of knowledge on the procedures for conducting a meeting.[20] To prepare the leaders in conducting meetings, COs briefed them on what issues to take up and how to present these.

The focus of the meetings changed over time, as follows.

1. In January 1981, most meetings were orientation sessions. These covered general information on the project's organizing and technical plans which included farmers' participation in system rehabilitation, farmers' organization into irrigators' associations (from rotational-area to zone level) which would assume partial system operation and maintenance tasks, need to have leaders in an area, COs' and TS' roles in the project, division of Upper Lalo into zones and rotational areas, paper location or layout of NIA-designed terminal facilities, expected preconstruction activities, and construction-related information (for example, reasons for the suspension of construction in January 1981, its planned resumption in April 1981, and NIA's plan to allow farmers to bid for the cost of constructing farm ditches and terminal canal structures). Also discussed were farmers' problems in relation to the existing system.

2. From February to June 1981, the meetings centered on construction-related concerns like the type of construction work contract to be entered into by farmers, determining contract signatories, forming committees, settling right-of-way and design revision problems, and

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[20]Zone I-A RAMC-4 leaders conducted by themselves the three meetings held in their area in February 1981. The CO was not present in two of the meetings--the first time because she attended another public meeting and the second, because she intentionally absented herself to train farmers to conduct meetings without her. The leaders, however, expressed their preference for the CO's presence in a meeting owing to these reasons: (1) CO can point out important items missed or help explain issues inadequately covered by leaders, (2) CO can provide immediate answers to clarifications sought by farmers on project matters, and (3) CO should be in meetings if her intention is to guide farmers.

scheduling preconstruction and construction activities (see section on farmers' participation in preconstruction technical tasks).

3. From July 1981 to March 1982, the meetings focused on three main groups of topics: (a) completion of remaining construction works in rotational areas, (b) formation of irrigators' associations in the zones, including organizational setup, formulation of incorporation papers, election of association officers, and registration with SEC; and (c) assumption by the associations of partial system operation and maintenance, including NIA's plans for this assumption, the associations' terms for taking on system management tasks, and negotiations between the associations and NIA on these terms. Other matters taken up in meetings concerned the classification of rotational-area members by residence, the campaign to increase the collection of irrigation service fees, and the implementation in November 1981 of the water delivery scheme tried out in June 1981.

COs and leaders took on the task of disseminating the information released and agreements reached during meetings to farmers who had failed to attend these gatherings. The responsibility for notifying absentees fell on leaders particularly after their election or appointment. The leaders also requested those who were present in a meeting to inform their fellow members about what had been taken up. In cases when there was an urgent need to communicate the results of a meeting to a specific person or group, the persons who would undertake the task were identified by leaders before adjourning the meeting. Otherwise it was understood that the rotational-area or ditch leader of the concerned person or group would assume the responsibility.

One problem encountered with regard to farmers' meetings was the cancelation or postponement of a scheduled meeting owing to insufficient attendance of farmers. This problem accounted for about half of the 35 canceled farmers' meetings in the documentation zones. The other meetings were canceled because of any of these reasons: absence of the presiding officer, CO, or most farmers owing to inclement weather or to scheduled farm activities; and leaders' need for more time to conduct notification or failure to undertake it.

In their efforts to resolve the attendance problem, COs enjoined farmers to convene a meeting despite a lack of quorum

and to discuss the attendance instead of the prepared agenda. This was in line with a NIA institutional development consultant's instruction to Upper Lalo COs during their supervisory meeting in April 1981. He suggested that if attendance fell short of 70 percent of the number of farmers in a rotational area, COs should analyze its cause and mobilize farmers to work on improving the attendance in their meetings. He also stressed that COs and farmers should not leave the attendance problem unresolved.

Particularly in meetings conducted in Zone I-A in July 1981, leaders led their groups in discussing two aspects of this problem: whether or not to convene a meeting with few attendees and how to encourage members to come to a meeting.[21] On the first aspect, farmers decided that despite few attendees it is better to hold instead of to postpone a meeting, and take up the planned agenda. Two reasons were given in support of their decision: (1) in farmers' experience, a rescheduled meeting often yielded a far lesser number of attendees, and (2) leaders contended that if they could not start organizing with a larger group then they had better begin with a smaller one.

To improve attendance in meetings, farmers offered the following suggestions: (1) do not convene a meeting on a Sunday because farmers prefer to go to the cockpit, (2) serve food and drinks during a meeting, (3) schedule a meeting after work hours in the fields, and (4) demonstrate to farmers that meetings could yield tangible results. (In Zone I-B, a CO who took up the attendance problem with leaders in his assigned areas suggested that the leaders refrain from discussing a meeting's agenda with members during notification so that the members' curiosity would be aroused and they would be encouraged to attend the meeting.)

Holding action-reflection sessions. During the first three months (January to March 1981) of organizing work in Zones I-A and I-B, COs conducted informal action-reflection sessions with

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[21] In a July meeting of Zone I-A RAMC-1, the rotational-area leader threatened to resign because he was tired of postponing meetings in which few farmers showed up. But he was dissuaded by the CO and other leaders on the grounds that his resignation will trigger others to resign and that resigning is a "retrogressive step" in organizing.

farmer-leaders.[22] On the way home from a meeting, COs asked one or more leaders to reflect on what had just transpired in a convened meeting and to suggest means to improve future proceedings. An assessment of a newly conducted meeting also occurred when farmer-leaders commented about it to COs during the latter's groundwork.

By April 1981, COs started to conduct or encourage leaders to hold a brief, formal action-reflection session shortly before a meeting was adjourned (that is, right after the discussion of the agenda). In this session, farmers reviewed the meeting's proceedings, focusing on agreements made. A common theme of the reflection was how to generate a higher farmers' attendance and participation in meetings.

In August 1981 and until March 1982, an action-reflection session was no longer undertaken as part of a public meeting in the documentation zones. Leaders and members instead devoted their entire meeting to discussions on project developments. Whenever needed, however, the leaders and COs held informal sessions as they did during the early months of organizing work.

Preconstruction Technical Activities

When the project commenced in mid-1980, the existing system in Upper Lalo already included some terminal facilities such as farm ditches, turnouts, division boxes, and crossings. The project's initial rehabilitation efforts were directed at improving some of these facilities, installing new ones, and building access roads. With the decision to involve farmers in the rehabilitation of the system, particularly its terminal facilities, the project suspended construction work (except access road construction) between January and March 1981. Beginning in this period, COs assisted farmers in preparing themselves for technical activities which were preparatory to constructing the terminal facilities in their respective areas. The preconstruction activities involved reviewing NIA's paper locations of terminal facilities, conducting walk-throughs, approving and/or revising the designs of terminal

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[22]One of the organizing strategies emphasized in the February 1981 staff development program workshop was that COs should conduct or train farmers to hold action-reflection sessions before ending the meetings.

facilities, and securing right-of-way donations. These activities lasted until December 1981, but starting mid-March 1981 farmers in some rotational areas had began to be involved in the construction of farm ditches in their own areas.

Reviewing NIA's paper locations of terminal facilities

The paper locations of NIA-proposed terminal facilities in every rotational area of Upper Lalo were contained in the zone parcellary maps which NIA had prepared before the deployment of COs and ZEs. A zone parcellary map showed: (1) the existing main and lateral canals and canal structures within the zone, (2) the proposed farm ditches and structures in each rotational area of the zone, and (3) the numbered farm lots to be served by these facilities.

During their integration work, COs showed to farmers the paper location for their area. In January 1981, ZEs did the same while accompanying COs during the latter's groundwork activities. Farmers were thus able to make an informal and often individual preliminary review of NIA's proposed design of their terminal facilities.

During the initial rotational-area meetings of farmers, convened between January and July 1981, the paper locations of their respective areas were formally presented to them. ZE, who usually handled the presentation, explained that the meeting aimed to determine if the proposed facilities would benefit every farmer in the rotational area. COs discussed the paper location whenever the ZE was unable to attend an area's first meeting. During the session, ZE or COs showed farmers the zone parcellary map and pointed out the locations of (1) farmers' rotational area within the zone, (2) the turnout which would serve the area, and (3) the proposed farm ditches as well as the existing or 1980-built and proposed structures within the area. The presentation afforded the farmers an opportunity to study as a group the paper locations of their areas. In a few areas, farmers immediately indicated which proposed routes of farm ditches might draw right-of-way objections, which site was best for locating a proposed structure or for relocating an existing or newly-built structure. However, in most areas, farmers scheduled a walk-through to ascertain the actual locations of NIA-proposed farm ditches and structures.

Conducting walk-throughs

To encourage all farmers in a rotational area to join a walk-through, COs and ZEs explained the advantages that farmers could derive from participation, namely: (1) they would be afforded a chance to revise or object to the NIA-proposed terminal facilities design, (2) they could suggest alternative ditch routes and could immediately determine if these were free of right-of-way problems, and (3) farmers could conduct on-the-spot negotiations with those who hesitated to donate right of way for both NIA-proposed and farmer-suggested ditch routes. COs and ZEs urged particularly those farmers whose lands would be traversed by proposed ditches to attend a walk-through. Then before the activity was held, COs conducted groundwork with farmers on the importance of their involvement in it.

In the documentation zones, farmers undertook a total of 36 walk-throughs between January and September 1981. Around 11 farmers joined each walk-through. The walk-throughs usually occurred within two weeks following the presentation of paper location. In some instances, farmers undertook the activity immediately after the presentation because they were eager to complete the task and still had sufficient time for it after the meeting. Farmers conducted their walk-throughs with COs, ZEs, and/or surveyors. They had explicitly requested ZEs and/or surveyors to accompany them so that they could avail themselves of technical advice (for example, whether or not a suggested route was feasible or whether a proposed ditch could be extended to irrigate more farms). These technical personnel themselves participated in the walk-through to be able to advise farmers and facilitate their own work through a better understanding of the constraints farmers face in making choices pertaining to the design.

A walk-through, which usually took about 1 to 1.5 hours, proceeded in the following manner. The farmers, CO(s), ZE, and/or surveyor(s) traced the route of a proposed ditch (or an existing one for rehabilitation) from start to end. As they walked the length of the ditch, the ZE, who brought along the parcellary map, pointed out the farm lots to be traversed by this ditch, as well as the locations of proposed structures like turnouts and division boxes. In response, farmers either approved the route as designed or they suggested changes. If necessary, they also proposed the relocation of dysfunctional structures which were built before January 1981.

In rotational areas where only one walk-through was undertaken, a group of farmers from different ditch groups in an area started their investigation from the main farm ditch (MFD) down to the last supplementary, drainage, or internal farm ditch (SFD, DD, or IFD). Leaders usually completed the entire walk-through while members often stayed until their own ditch routes had been investigated. Sometimes as the group walked the length of a particular ditch, other farmers who were served or who expected to be served by this ditch joined them. In areas where more than one walk-through was held, farmers from various ditch groups in an area initially conducted this activity at the main ditch. Then with their rotational-area or ditch leaders, those ditch groups which had a good attendance continued to do a walk-through of their respective ditches. In turn, those groups which had poor attendance postponed or set the activity for another day.

Approving and/or revising the designs of terminal facilities

The NIA designs of terminal facilities for the rotational areas were approved and/or revised by farmers during their walk-throughs. In approving or suggesting changes in these designs, especially the locations of farm ditches, farmers were guided by three major concerns: (1) to irrigate more fields, particularly those included in the rotational area but not previously reached by water because of elevation or downstream location, by fitting ditch lines to the contours of the land and placing turnouts in consideration of these contours; (2) whenever possible, to use existing ditches in order to avoid reducing farm sizes (notably in cases where the proposed ditch would traverse a field with an existing one); and (3) to locate ditches where rights of way could be obtained.

The following are examples of farmer-suggested revisions in the NIA designs of terminal facilities in the documentation zones, and the TS' responses to these suggestions.

1. Rerouting SFD-3 in Zone I-A RAMC-2. NIA designed five ditches (one MFD, three SFDs, and one DD) for RAMC-2 which covered 31 hectares. Of these ditches, one (DD) was deleted by farmers after consulting with ZE and surveyors; two (MFD and SFD-2) were approved; and two (SFD-1 and SFD-3) were revised. With regard to SFD-3, in April 1981 farmers suggested a new route utilizing

portions of the existing ditch in order to irrigate downstream fields (adjoining Zone I-B RALAT-B) which could not previously be reached by water. Their proposed ditch was to bifurcate at about its midpoint. In response, the design section ordered a survey to determine the feasibility of this proposal. The survey results which the design section received in June indicated that the proposal was feasible but it was unnecessary for the ditch to have a forked portion because the right line of this portion could also irrigate the area to be served by the left line. Hence the farmers' proposal, but without the left line, was approved. The revised SFD-3 was shorter than that originally designed by NIA.

2. Rerouting SFD-2 in Zone I-B RALAT-E-1. A total of six ditches (one MFD, three SFDs, one IFD, and one DD) were designed by NIA for RALAT-E-1, a 34-hectare area. Following consultations with ZE and surveyors, farmers deleted one ditch (DD) and approved three others (MFD, SFD-1, and IFD). They also suggested revisions on two ditches, one (SFD-3) of which was found to be technically feasible by the design section. The other revision, which was not feasible, concerned SFD-2. In February 1981, farmers proposed that the lower portion of SFD-2 be rerouted to reach an elevated area (coconut land to be converted into riceland) situated downstream. After an investigation in March, the design section disapproved this proposal because the area was too elevated to be reached by water. When told of the survey results, the farmers agreed to concur with the original design of SFD-2.

3. Extending SFD-1 in Zone I-A RAMC-4. NIA designed five ditches (one MFD, three SFDs, and one IFD) for RAMC-4 which covered 35 hectares. Farmers approved one ditch (IFD, later renamed SFD-4) but recommended changes in the rest. One of the changes they proposed in February 1981 was to extend SFD-1 as well as to reroute it by using the existing ditch. This proposal was made so that the downstream fields which had difficulty obtaining water could be served. The design section subsequently had a survey conducted to determine the feasibility of the farmers' proposal. In May, the survey results indicated that the suggested route for SFD-1 would enable the downstream field to be reached by water. Hence the design section approved this route.

4. Extending MFD in Zone I-B RAMC-5. For the 33-hectare RAMC-5, NIA designed seven ditches (one MFD, three SFDs, two IFDs and one DD; see Figure 5). Of these ditches, three (SFD-1, SFD-3, and DD) were deleted by farmers after consultations with ZE and surveyors while one (IFD-1, later replaced and renamed SFD-3) was approved. However, the remaining three ditches (MFD, SFD-2, and IFD-2 which was later renamed SFD-4a) were revised with approval from the design section. Farmers also suggested and received the section's approval for two new ditches: one to replace the NIA-designed SFD-1 which they deleted, and the other to irrigate the 24-hectare extension area located downstream. With the inclusion of this area, the coverage of RAMC-5 had increased to 57 hectares as of end of March 1982.

It was with the intention of irrigating the extension area that farmers sought changes in the MFD in January 1981. They proposed that the MFD be extended by utilizing, rehabilitating, and lengthening the existing drainage ditch of RALAT-C. To discourage the use of water from a drainage ditch because of its fall-out chemical content, the design section disapproved the proposal and suggested that the NIA-designed (but farmer-deleted) SFD-1 be utilized in lengthening the MFD. In subsequent field investigations, the farmers, ZE, and surveyors jointly determined the revised length of the MFD (which was further extended with the inclusion of the initial section of the NIA-designed IFD-2). Under the TS' guidance, farmers also plotted the course of the new SFD-1 and SFD-4. The latter ditch reached down to serve the extension area (see Figure 6).

5. Shortening SFD-2 in Zone I-A RAMC-3. As indicated on the NIA design, RAMC-3 (a 52-hectare area) would have seven ditches (one MFD, four SFDs, one IFD, and one DD). Farmers deleted three (SFD-3, IFD, and DD) of these ditches owing to right-of-way problems, approved two (MFD and SFD-1), and revised two (SFD-2 and SFD-4). With regard to SFD-2, in June 1981 farmers suggested that this proposed ditch be shortened at the point where it joined an existing ditch, and that the existing ditch be included in the design as a new ditch (SFD-2a) in order to continue serving a part of RAMC-4. Field investigations ordered by the design section in July showed that the farmers' proposals were feasible.

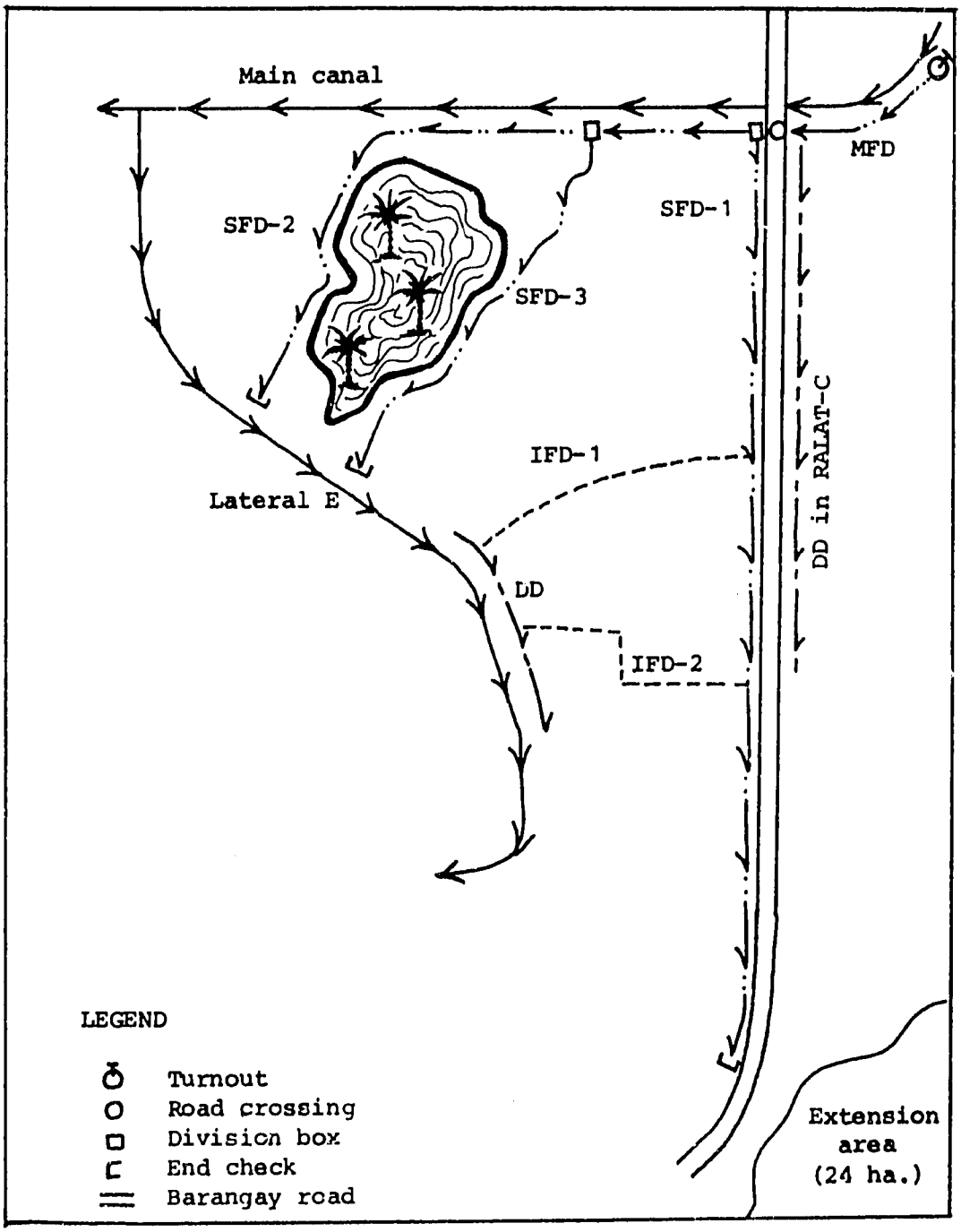

Figure 5. Layout of the NIA-designed terminal facilities for RAMC-5, Rinconada/Buhi-Lalo project

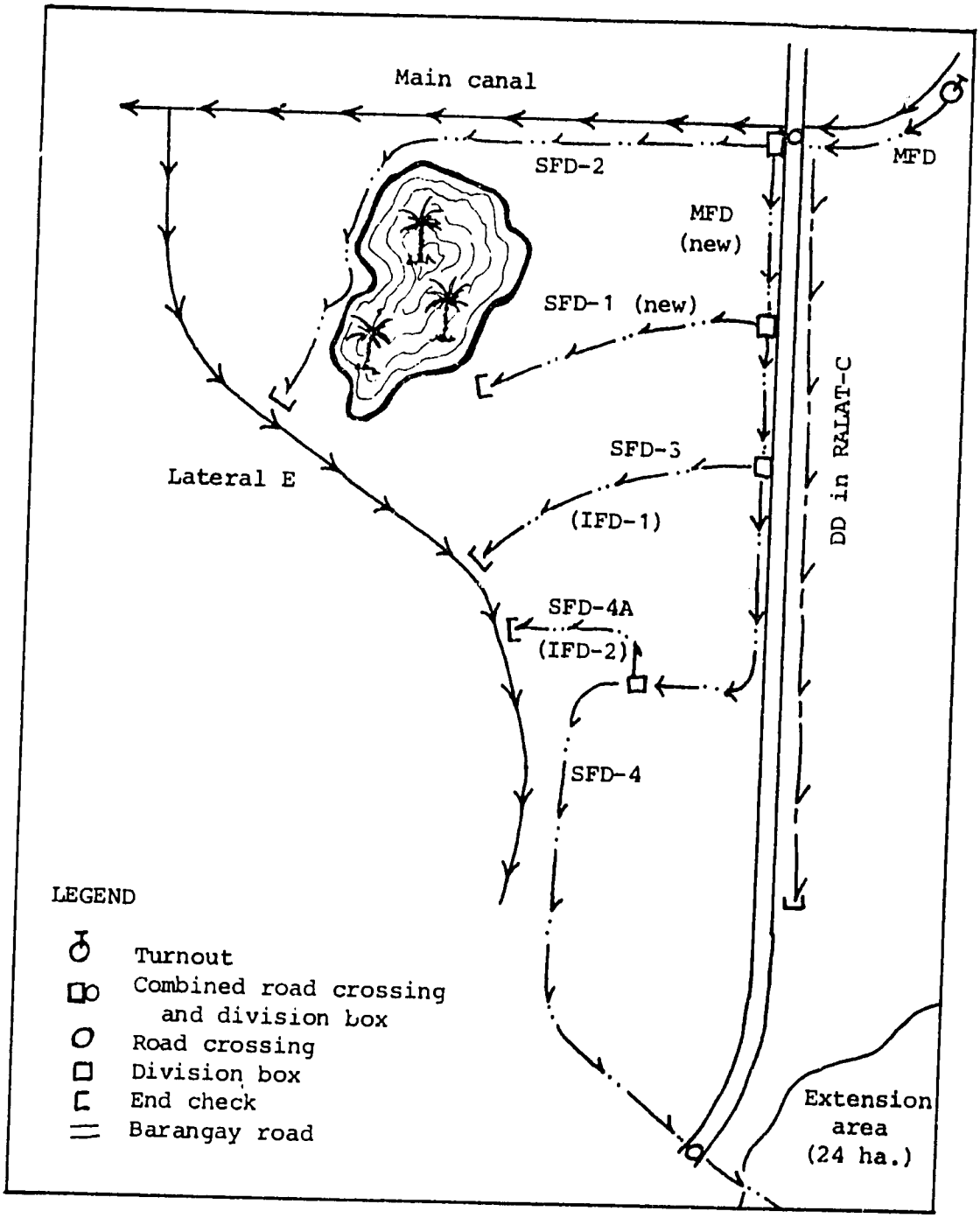

Figure 6. Layout of the terminal facilities agreed upon by TS and farmers for RAMC-5, Rinconada/Buhi-Lalo project

6. Deleting the drainage ditch in Zone I-A RALAT-A-SP-1. NIA designed two ditches (an MFD and a DD) for RALAT-A-SP-1, a 13-hectare area. Upon consultation with ZE and surveyors, farmers deleted the drainage ditch and revised the MFD. Later, with the relocation of their turnout, they added a new SFD. In the case of the drainage ditch, in June 1981 farmers sought its removal from the design because they considered it unnecessary. The design section concurred with them.

7. Including new SFD-2a in Zone I-A RALAT-A-1. For the 24-hectare RALAT-A-1, NIA designed five ditches (one MFD, two SFDs, one IFD, and one DD). Of these ditches, one (IFD) was deleted by farmers; one (DD) was approved; and the rest (MFD, SFD-1, and SFD-2) were revised. With their decision to delete the internal ditch because of a right-of-way problem, in June 1981 farmers proposed a replacement (SFD-2a). They plotted this new ditch upstream of the one to be deleted, in an area where it was possible to obtain right of way. The design section approved the farmers' proposal when the results of the survey it ordered showed the new route to be feasible.

8. Relocating the turnout in Zone I-A RAMC-1. NIA designed six ditches (one MFD, three SFDs, one IFD, and one DD) for the 31-hectare RAMC-1 (see Figure 7). With the approval of the design section, farmers later deleted three ditches (SFD-3, IFD, and DD) and revised the three others (MFD, SFD-1, and SFD-2).

NIA also designed and constructed in late 1980 an 18-inch diameter turnout for the area. In April 1981 (or before the walk-through was held in May), farmers proposed the construction of a turnout downstream of the NIA constructed one, specifically at the site of an illegal turnout. Through this proposal, they hoped to be able to irrigate some elevated farms in the SFD-2 area. This was the first proposal received by the design section involving the construction of a new turnout which would replace a NIA-built turnout. To discourage other farmers from making a similar proposal (because a turnout would cost more than ₱5000), the section disapproved it. In July, SFD-2 farmers wrote the project manager a petition letter stating their rationale for wanting to relocate the turnout. The letter was turned over to the design section which, in turn, sent a design engineer

to conduct a field investigation. The engineer discovered that the farmers' suggestion was the only feasible alternative so that the elevated farms could be irrigated. Consequently, the section reconsidered its earlier decision. In this regard, the section felt that spending for a new turnout would contribute toward better water management and, in the long run, would be a cost-saving measure. The change in the turnout location resulted in a longer MFD and a shorter SFD-2 (see Figure 8).

9. Relocating a turnout in Zone I-B RAMC-SP-1. In the NIA design, two ditches (one MFD and one IFD) would serve RAMC-SP-1 which covered 12 hectares. Farmers later revised both ditches with the design section's approval. The revision in one ditch (MFD) was a result of the farmers' proposal to relocate the turnout for their area. This turnout was constructed by NIA in late 1980. In July 1981, farmers suggested that it be relocated upstream (exactly opposite the turnout of RAMC-5) of its present site in order to irrigate some elevated fields not previously reached by water. They contended that the NIA-constructed turnout was not properly installed. After an investigation in August, the design section found out that the contention of the farmers was true and that their proposal was feasible. Thus, the section approved the construction of a new turnout and the resulting extension of the MFD.

10. Converting an extension area into a new rotational area in Zone I-A RALAT-A-2. For the 22-hectare RALAT-A-2, NIA designed three ditches (1 MFD and 2 SFDs; see Figure 9). Farmers approved two (MFD and SFD-1) of these and revised the third (SFD-2). So that the 22-hectare extension area located downstream could be irrigated, farmers added, with the design section's approval, the following new ditches: MFD extension, SFD-3, SFD-4, and SFD-5 (see Figure 10). With the inclusion of this extension area, the coverage of RALAT-A-2 rose to 44 hectares as of end of March 1982.

At the start, however, farmers considered the possibility of converting the extension area into a separate rotational area (to be called RALAT-A-4) instead of merging it with RALAT-A-2. In May 1981, farmers in the extension area proposed this conversion to NIA.

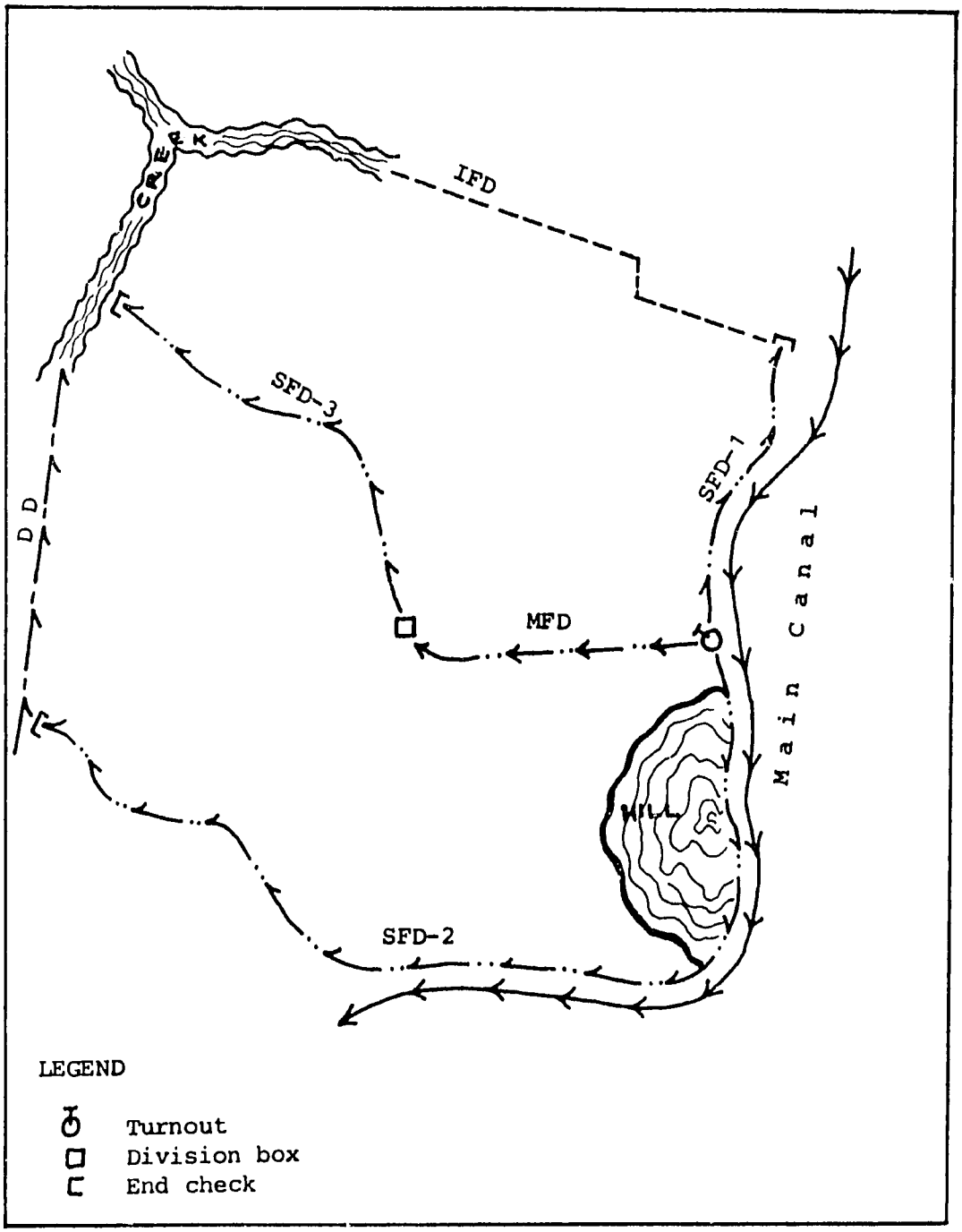

Figure 7. Layout of the NIA-designed terminal facilities for RAMC-1, Rinconada/Buhi-Lalo project

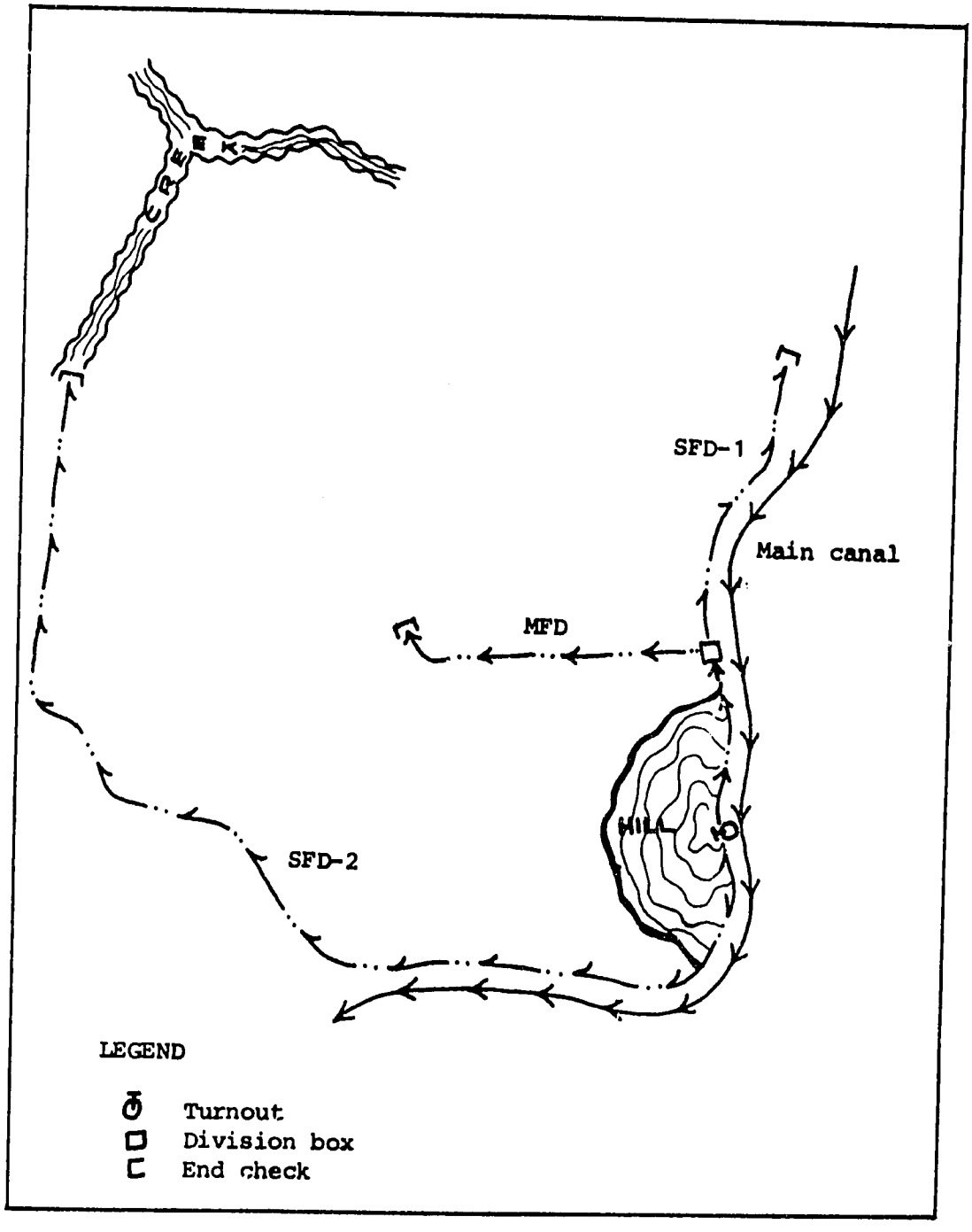

Figure 8. Layout of terminal facilities agreed upon by TS and farmers for RAMC-1, Rinconada/Buhi-Lalo project

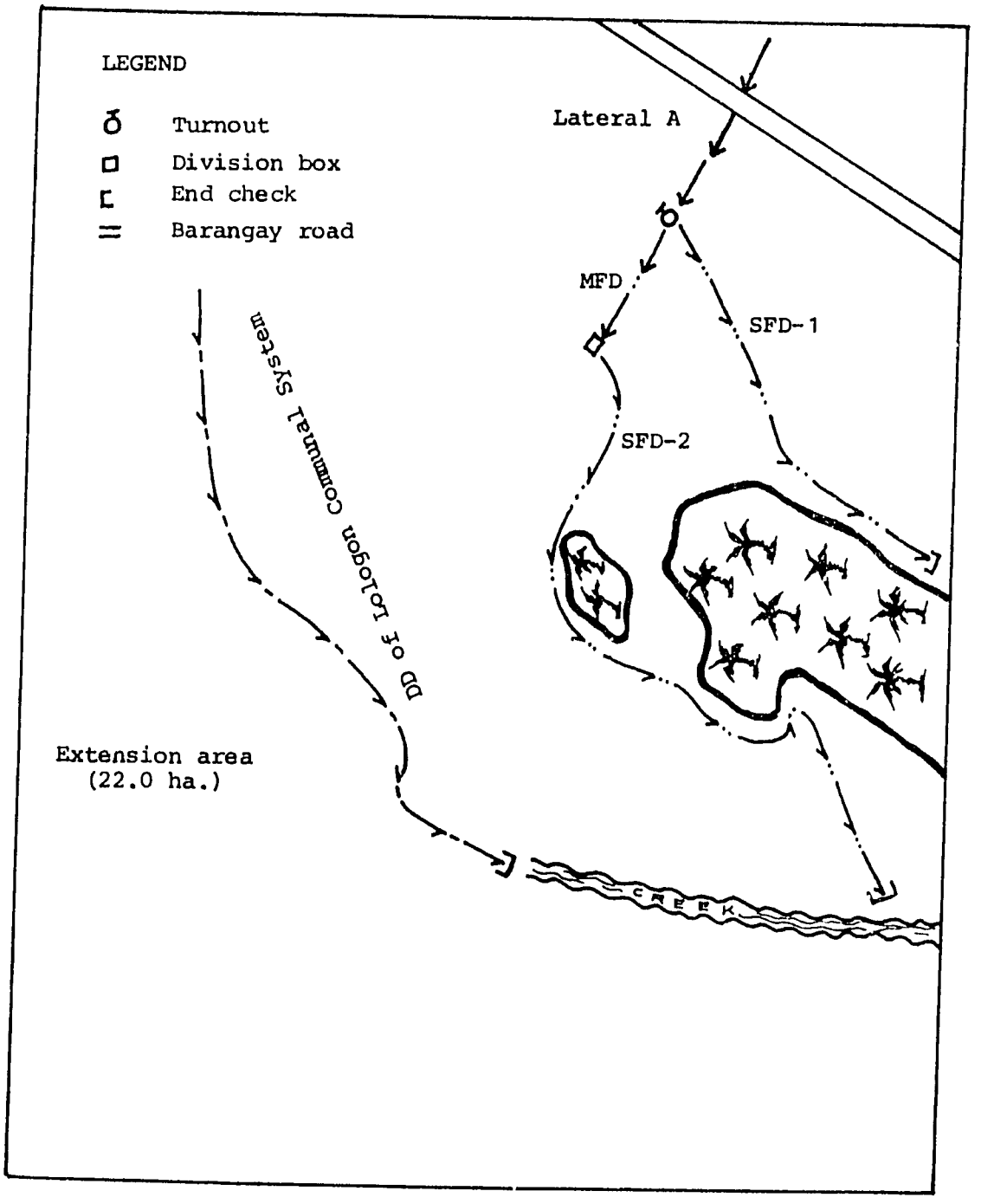

Figure 9. Layout of the NIA-designed terminal facilities for RALAT-A-2, Rinconada/Buhi-Lalo project

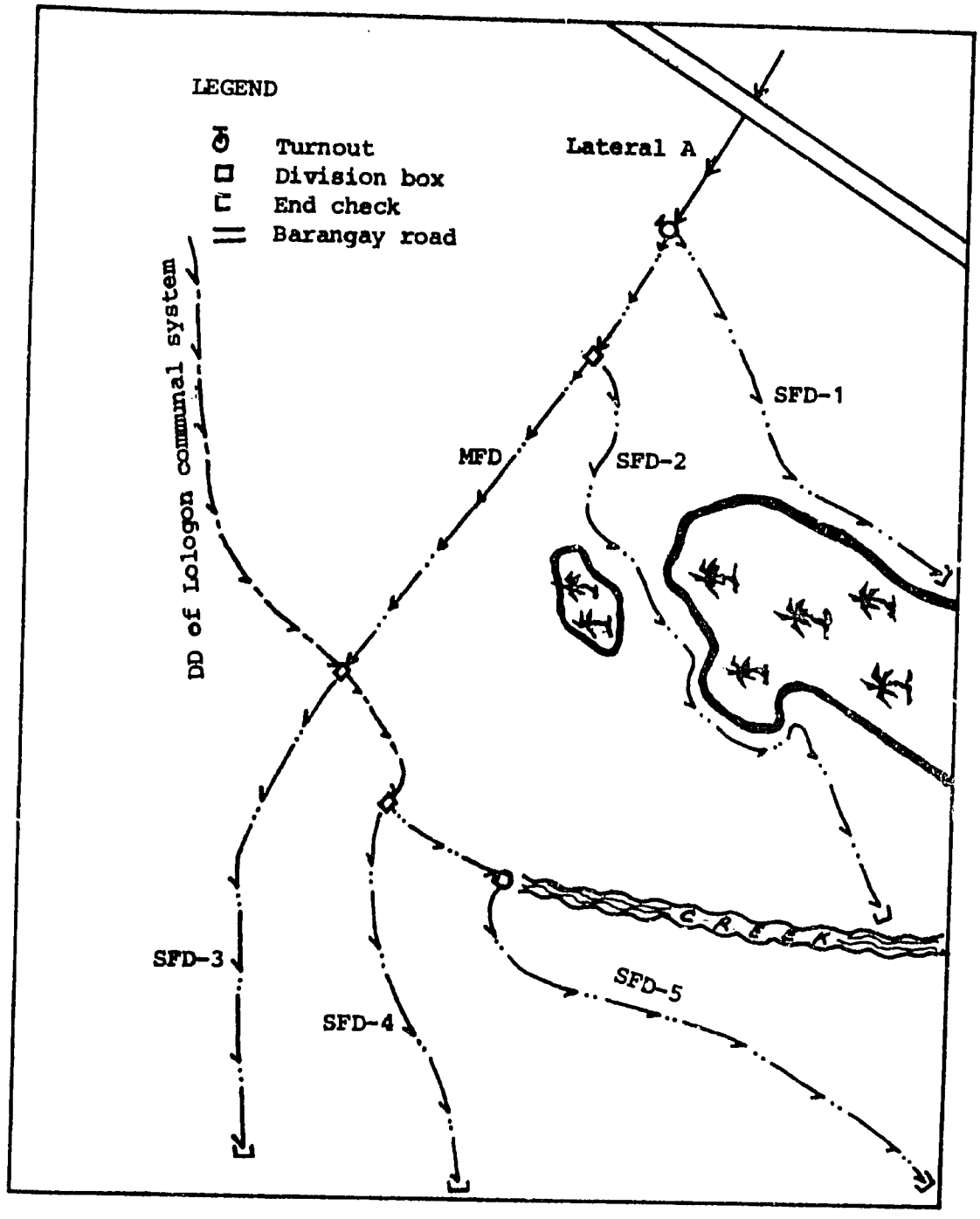

Figure 10. Layout of terminal facilities agreed upon by TS and farmers for RALAT-A-2, Rinconada/Buhi-Lalo project

> They explained that they could not derive sufficient water from RALAT-A-2 (as well as from the adjoining RALAT-A-3) so they augmented their water supply by drawing from the existing drainage canal of the adjacent Lologon communal irrigation system. And owing to this water problem, they wished to constitute a separate rotational area with its own turnout. In August, the design section disapproved the farmers' proposal on the grounds that the 18-inch diameter RALAT-A-2 turnout (which NIA built in 1980) had the capacity to irrigate as much as 50 hectares. Therefore, this turnout could sufficiently serve both the RALAT-A-2 original and extension areas. But in order to determine a feasible alternative to the farmers' proposal, the section sent a design engineer to make a field investigation. During this investigation, the farmers and TS (design engineer, ZE, and surveyors) jointly worked out a solution to the problem of irrigating the extension area without installing a new turnout. The solution was to build an MFD extension which utilized the lower part of the existing drainage canal of the Lologon system and to add three new ditches and three structures. The ditches which farmers themselves plotted were SFD-3, SFD-4, and SFD-5; the structures were a combined farm ditch crossing and division box, a division box, and a floodway. Although TS normally discouraged the use of water from a drainage ditch, they made an exception in the case of the RALAT-2 extension area because it was the only feasible alternative after rejecting the farmers' proposal for a separate rotational area.

Farmers' suggestions on revisions of NIA designs for terminal facilities were transmitted to the design section in the following ways. From January to March 1981, the surveyors, ZEs and/or COs orally reported the farmers' suggested revisions to the design section. After the procedure for submitting design revisions was formalized in late March 1981, ZEs began preparing a report on each farmer-proposed revision. They attached this report to the farmers' petition letter which stated the revisions they sought and the reasons for these. (The letter was signed by members of the farmer-group which suggested the revision.) After submitting the report, ZEs occasionally checked on the progress of the design section's work on the farmer-suggested revisions. COs and leaders also conducted personal follow-ups with the design section.

Within three months after receipt of the proposed revisions, the design section prepared the revised designs. When the change involved the construction of a turnout (or any structure), the design engineer conducted a field investigation to determine whether the proposal was feasible or whether there was a need to draw up an alternative. But when the change concerned a ditch, the surveyors were called in to conduct a resurvey to ascertain its feasibility. Resurveys were often undertaken in the company of two to ten farmers, a majority of whom were leaders. ZEs and/or COs sometimes went with the group. Should the design section have any objections to any of the farmer-suggested revisions, ZEs and surveyors usually informed the farmers before the field investigation. Farmers then sought an acceptable alternative under the guidance of TS.

Upon completing the revised designs, the design section sent these to the plans and programs section for costing, and to the project manager for approval. Then, ZEs collected the approved revised designs and made arrangements, either personally or through COs, with the farmers concerned to prepare for construction.

An inventory of NIA's original designs for ditches in the documentation zones and the ditches that farmers and TS jointly agreed to be built reveals the following. NIA originally designed a total of 77 ditches, with a total length of 48,387 meters. Farmers accepted or approved without change 29 (or 38 percent) of these ditches. With the design section's agreement, they revised the other 30 (39 percent) and deleted the remaining 18 (23 percent). Revisions of ditch designs involved rerouting, extending, or shortening the ditches. As regards the deleted ditches, many of these were found by farmers to be unnecessary while some could not possibly be constructed because of right-of-way problems. In place of the deleted ditches, farmers in consultation with the TS suggested nine new ditches. These changes on ditch designs reduced the number of ditches in the documentation zones to 68, with a total length of 46,262 meters (or a decrease of 2125 meters from NIA's original design; see Tables 4 and A10).

With regard to the canal structures, the project had installed 35 structures by December 1980, or before the project decided to fully involve the farmers in the design and construction of the terminal facilities. Of these structures, 30 were retained after the designs of terminal facilities were revised as a result of farmers' inputs. Three of the five other structures were deleted while two were relocated. Between January 1981 and March 1981, during which farmers were involved in designing their facilities,

Table 4. Selected information on farm ditches in Upper Lalo documentation zones: January 1982

Information	Zone I-A	Zone I-B	Total
Number of NIA-designed ditches	40	37	77
Number of ditches approved by farmers	12	17	29
Number of ditches revised by farmers/farmers and TS	16	14	30
Number of ditches deleted by farmers/farmers and TS	12	6	18
Number of new ditches suggested by farmers/farmers and TS	7	2	9
NIA-designed ditches			
Number of ditches	40	37	77
Total length of ditches (in meters)	23,373	25,014	48,387
Total construction costs	(no data)	₱81,660	-
Ditches built as agreed upon by farmers and TS			
Number of ditches	35	33	68
Total length of ditches (in meters)	22,841	23,421	46,262
Total construction costs	₱79,198	₱78,413	₱157,611

90 additional structures were identified for construction and subsequently built (see discussions on constructing canal structures).

Securing rights of way

In line with its existing policies, NIA required farmers to negotiate for and obtain right-of-way permissions prior to the construction of farm ditches. Farmers were informed of this prerequisite in January 1981 during COs' groundwork on their participation in project activities as well as during TS' and/or COs' presentation of paper location.

After farmers had seen and discussed the paper locations for their rotational areas, their leaders inquired from those concerned whether they were agreeable to giving ROW for ditches. Farmers who agreed said so; in like manner, those who had objections usually informed the leaders. There were others, however, who told fellow farmers of their objections and these farmers, in turn, informed the leaders. Thus even before holding walk-throughs, members of a rotational area often already knew the persons who would pose difficulties during ROW negotiations.

ROW negotiations were undertaken primarily by rotational-area and ditch leaders either during walk-throughs or during their rounds to secure signed ROW permits. During the walk-throughs, the leaders discussed ROW with their members and sought the farmers' formal consent to donate ROW. In the process, farmers who had previously made known their refusals and those who had not communicated their objections became formally known by the group. If those farmers who refused to give ROW permits were present, the leaders immediately negotiated with them. Other members also helped in urging these farmers to reconsider their decision to withhold ROW consent. If the farmers were adamant in their objections, the leaders located a new ditch route in consultation with members who attended the walk-throughs. ROW problems met in connection with the alternative route were again subjected to negotiations. But if there were more problems in the new than the originally-proposed route, the leaders reverted to their earlier attempts to settle problems regarding the original route.

ROW donations were obtained by leaders either verbally or through signed ROW permit forms. All Zone I-B leaders employed the practice of getting verbal ROW consent because their members tended to shy away from signed agreements. Verbal consent was secured during or after walk-throughs. In contrast, most Zone I-A leaders followed the NIA practice of obtaining signed ROW permit forms (used for access road construction). This activity started in February 1981 when ROW permit forms became available.[23]

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[23]When Zone I-A RAMC-4 leaders began securing ROW permits in February 1981, they were confused as to who should sign the permit. They thought that a tenant could sign it provided that he coordinated with his landowner. Also, at the start, each of the farmers who contributed ROW for a proposed ditch was asked to sign a ROW permit form. Later all farmers granting ROW permits for a ditch had to sign on only one form. Leaders turned over the signed permits to COs.

The signing of forms occurred after the walk-throughs. In obtaining ROW donations, the rotational-area leaders usually took charge of getting these for the MFD; the ditch leaders, for their own ditches.[24]

The means which leaders employed in obtaining ROW donations included: (1) explaining that the ditch was important to fellow farmers and appealing to the landowner's humane nature, (2) exerting peer pressure, as in urging the potential donor to conform to his group's expectation that he give ROW while hinting that any contrary behavior would earn him the group's negative sanctions (for example, severance of social ties), (3) exercising subtle coercion by using the leader's position, influence, or contacts in the community to bring the landowner to relent, (4) conducting constant and relentless talks with potential donors, and (5) conceding to conditions set by these landowners as long as these were within the leaders' and members' capabilities, like removing a boulder from a potential donor's farm. During difficult negotiations, the leaders involved their members by inviting the farmers concerned to a meeting to thresh out their objections to giving ROW (see the case of CT below). They also sought the assistance of the project's ROW section (see the case of EP below) in settling problems. COs and ZEs extended their help by mediating or following up the leaders' difficult negotiations. If various means to obtain ROW permission from a farmer failed, the leaders opted either to retain the use of existing ditch routes or to stop the proposed ditch routes before the fields of farmers refusing to grant ROW. Their decisions were made in consultation with farmer-members.

In the documentation zones, at least 27 farmers (in nine rotational areas) objected to giving ROW when first requested to. Of these farmers, 15 agreed to provide ROW after their leaders' repeated negotiations with them. The other 12 did not donate ROW so the leaders (in agreement with their members) decided to either use the existing ditch located on the farmer-objectors' field (five cases), reroute the proposed ditch (one case), stop the

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[24]Zone I-A RAMC-1 and RAMC-4 and Zone I-B RALAT-E-1 each formed a ROW committee. Of the three committees, only that of RAMC-4 was functional; its chairman was the rotational-area leader while three of the four members were ditch leaders.

proposed ditch before it reached the farmer-objector's field (three cases), or delete the proposed ditch (three cases).

Farmers had different reasons for refusing to grant ROW. Some considered it unnecessary to construct a new ditch on their land when there was an existing ditch which provided them sufficient water. Since most farmers had small holdings (the average farm size was 8000 square meters) they were worried about the further decrease of the size of their land. In cases where a ditch traversed the middle of two adjacent farms, some farmers were concerned that more of their land would be taken than the land of their neighbor. In other cases, farmers wanted to use their power to grant ROW as a means of leverage to get certain other demands granted. For example, some farmers wanted NIA to pay for ROW which they had given for an access road.

Described below are the five cases where ROW problems delayed or canceled construction activity.

The case of CT. This farmer in Zone I-A RAMC-2 had refused to give ROW for the construction of an MFD unless the boulder on his ricefield was removed. (This boulder was bulldozed onto his farm during the provincial road construction.) The SFD-1 leader (CXO) who conducted the negotiations invited him to attend the 15 March 1981 meeting of RAMC-2. During this meeting, the leaders and members tried unsuccessfully to convince CT to sign the ROW permit form. At one point, CT and CXO had a heated exchange of words. This prompted ZE to ask how big the boulder was. When CT replied that it could be removed by three persons, ZE suggested that the farmers cooperate in the task. Although he was still angry, CXO conceded. By the fourth week of March, some leaders and farmers had removed the boulder from CT's field and CT had signed the permit.

The case of EP. This farmer was one of the three who caused the postponement of the stake-out for the MFD of Zone I-A RAMC-4 on 4 March 1981. On that day, EP learned that the permit he had signed in February was not for the rehabilitation of the existing MFD on his farm. Surprised that it was for a new MFD, he declared that no stake-out should be done on the farm until the landowner was informed.

On 6 March, the rotational-area leader (SM) went to the the project office and discussed this problem with the ROW section head. The two agreed to meet on 9 March so that they

could go together to the landowner who resided in Baao, a town away from Buhi. They also agreed that the section head would fetch SM at the latter's house in San Isidro, Buhi. On the appointed date, however, SM and three SFD leaders waited in vain for the section head's arrival.

On 11 March, the chief of the farmers' assistance division checked with SM whether both he and the section head were able to see the landowner. When told that they were not able to do so, the division chief advised SM to wait until the end of that week (15 March). If the section head would still fail to contact SM, the division chief suggested that SM's group settle for the existing MFD on EP's farm. This suggestion was agreeable to SM.

On the following day, the section head saw SM and informed him that he would personally talk with the landowner. He also said that he would relay to SM on 16 March the results of this talk. On the promised date, the section head again failed to see SM. But two days later (18 March), the section head sent a representative to show EP a note from the landowner stating approval for constructing a new MFD. EP questioned the authenticity of the note so he resolved to check this out personally with the landowner. On 31 March, EP and some NIA personnel saw the landowner who confirmed his approval.

The case of JP and PM. ROW problems with JP (a landowner) and PM (JP's tenant) disrupted the ongoing construction of SFD-1 in Zone I-B RALAT-E-2 in June 1981. These farmers refused to give way for the construction of a new ditch on their farms because they saw no need to construct this ditch considering that there was an existing ditch which could irrigate the farms sufficiently. Besides, they claimed to have signed a ROW permit for access road construction only. After failing to convince JP to agree to the construction of a new ditch, RALAT-E-2 farmer-leaders sought the mediation of the NIA ROW section. A staff member of the section met with JP and PM and obtained their permissions. Thus the ditch construction was resumed and completed in August.

The case of IP. In November 1981, IP revoked his ROW permission for the construction of SFD-3 in Zone I-B RAMC-6. The 700-meter ditch would have served 10 farmers. Workers were already set to start its construction when IP revoked the permission which was granted after the RAMC-6 walk-through in April. IP claimed that he did not want his farm

size to decrease inasmuch as the farm could already be served by SFD-2. The SFD-3 leader (MG) questioned IP's contention because SFD-2 was supposed to serve only SFD-2 farms in the same way that SFD-3 would irrigate only SFD-3 farms. After having fruitless talks with IP, MG sought the help of CO and ZE who managed to secure the farmer's verbal approval. But when the construction was about to begin, IP's mother informed the workers that her son had changed his mind even if this meant that his farm would not be irrigated. She said that IP was willing to raise rootcrops instead during periods when water is not available or when rainfall level is low. Because of IP's firm refusal to allow a ditch to be constructed on his land, the workers' refusal to undertake construction work unless this problem was solved, and the unavailability of an alternative ditch route, the RAMC-6 leaders (including MG) decided not to construct SFD-3. Moreover, the leaders agreed to close the temporary water source of SFD-3, which was located in a section of SFD-2.

The case of Zone I-A RAMC-3 farmers. In November 1981, a number of farmers refused to have SFD-3 constructed because their lots were already sufficiently irrigated by the MFD Also, a farmer refused to allow the drainage ditch to traverse his field because it would take a sizeable area of his land. RAMC-3 leaders attempted but failed to get these farmers to reverse their decisions. Thus on 27 November, the leaders discussed these problems with CO and ZE who pointed out to the leaders that these matters should had been communicated to ZE right after the walk-through in June. Because the problems meant deleting SFD-3 and the drainage ditch whose designs had been completed, ZE referred these to the design section. On 2 December, he informed the rotational-area leader-contractor that the section head had approved the deletion of said ditches.

Construction and Related Activities

When it decided to involve farmers in the construction of terminal facilities in Upper Lalo, the project management recognized three needs. One was to allow some lead time for COs to organize farmers to undertake the construction of their own facilities. Another was to ensure that construction in an area would take place only when farmers were ready for it, rather than by simply following a predetermined plan as in the case of NIA projects which do not employ farmers' participation. The third was to guard

against delay in meeting the construction timetable. In order to balance these needs, the project management called a three-month moratorium period (January to March 1981) on the construction of terminal facilities. Moreover, to enable farmers to fully participate in the design and construction of these facilities, it adjusted the construction schedule. Completion of construction which was originally scheduled for December 1981 war moved to June 1982.

CO's organizing efforts during the suspension of construction work enabled farmers in some rotational areas to assume this work beginning mid-March 1981. Farmers were informed of construction requirements during preconstruction meetings with TS. In the documentation zones, farmers finished ditch construction by January 1982 (five months before the project's scheduled completion date). In February, construction of the farm-level canal structures (some of which were done by farmers) was also completed.

Convening preconstruction meetings

As farmers in the rotational areas became organized, their desire to participate particularly in the construction of their own farm ditches also became evident. They expressed this desire not only through words but also through their involvement in various preconstruction technical activities. To sustain farmers' interest, the project management expended considerable efforts in working out construction arrangements that were satisfactory to both NIA and the farmers. The arrangements that were utilized for ditch construction were takay (volume of work) and pacquiao (fixed price). These arrangements were first explained by TS to farmers during preconstruction meetings in the rotational areas.

A preconstruction meeting was planned by leaders after the farmers in their rotational area had approved the NIA-designed ditches and/or while they were awaiting TS' release of redesigned ditches based on their suggested revisions. The objective of this meeting was to enable farmers to receive briefings from TS or from leaders on the requirements of ditch construction (such as stake-out, number of laborers, and duration of construction) and on construction arrangements (specifically, the estimated construction cost, manner of deriving it, and mode of payment).

In the documentation zones, a total of 16 preconstruction meetings (11 in Zone I-A and 5 in Zone I-B) were held between March and November 1981. Leaders notified their members about

preconstruction meetings. Attendance in these meetings averaged 41 percent of the validated number of farmers in the rotational areas. Of the attendees, about 21 percent participated in the discussions (see Table A11). During the first three preconstruction meetings held in March 1981, the chief of the project's construction division briefed the farmers about construction matters; in the subsequent ones, ZE or the rotational-area leader (who received briefings from ZE) took over the task.[25]

Farm ditches were constructed between March 1981 and January 1982. After June 1981, construction contracts with the farmers shifted from takay to pacquiao. Consequently, the content of the discussions in preconstruction meetings changed as follows.

1. Data covered in the March to June 1981 preconstruction meetings

   a. Specific information regarding farm ditches. The data included the length of a ditch to be constructed or rehabilitated, required manpower, work duration, and estimated cost. Concerning the last item, TS explained that the cost was derived by multiplying the volumes for common excavation and common borrow with NIA's prices of ₱5 and ₱6 per cubic meter, respectively. Farmers were also informed about ditches which could be constructed (that is, those with NIA- and farmer-approved designs and cost estimates).

   b. Utilization of takay. TS explained that NIA had decided to employ takay instead of pacquiao, as planned in January 1981, in order to avoid the excessive paper work and 3 percent deduction for contractor's tax required in the latter mode. Under takay, laborers would be paid through the NIA payroll which would indicate their names and corresponding amount of work rendered. Their daily wage would be pegged to the legislated minimum rate of ₱14.93 (subject to Medicare deduction).

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[25] In the case of Zone I-B RAMC-6, neither the rotational-area nor one of the ditch leaders felt competent enough to handle a preconstruction meeting. Thus they appointed the RAMC-SP-1 rotational-area leader to the task.

c. Stake-out for farm ditches. TS described this activity, particularly farmers' participation in it (see section on stake-outs). Farmers then scheduled a stake-out during the meeting.

d. Requirements during actual construction. Farmers would be required to prepare two plantilla (canal mold) for every ditch to be constructed and to select an attendance checker for every construction task.

2. Data covered in the October and November 1981 preconstruction meetings

a. Shift to pacquiao. ZE or rotational-area leader advised farmers that beginning in October, pacquiao would replace takay in canalization works. (During leaders' planning sessions, farmers' public meetings, and COs' groundwork activities since July, COs and ZEs had been informing both leaders and members about NIA's reasons for the shift in construction arrangement. Two reasons were given: under takay, farmers received less than the minimum daily wage; under pacquiao, farmers would be trained to negotiate contracts. When informed, farmers appeared willing to try out the pacquiao arrangement mainly because they had experienced delayed payment problems under the takay.) It was also explained that each rotational area would be given a contract for the farm ditches that had yet to be constructed there. The rotational-area leader as pacquiao contractor would sign the contract.[26] Except in Zone I-B, contract-signing was accomplished during the meeting.

b. Obligations of a pacquiao contractor. ZE explained that the contractor would be responsible for determining the number of workers needed to accomplish a contract, ensuring that the work undertaken would not exceed 45 days as specified in the contract, and handling payments.

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[26] In the case of Zone I-A RALAT-A-SP-1, the rotational-area leader assigned the SFD-1 leader to be the contractor because he was preoccupied with family matters and could not attend to the task.

c. Total contract price for canalization. ZE provided farmers the estimated quantities for common excavation and common borrow, along with their prices and total cost for canalization works to be completed in an area. The total contract price was based on the unit costs of ₱6.50 and ₱8.50 per cubic meter for excavation and borrow, respectively. A 3-percent contractor's tax would be withheld by the project office from the contract cost. Farmers were presented with computations showing the amount they would receive after the tax deduction.

d. Other requirements/agreements. In Zone I-A meetings, ZE told farmers to provide a specific number of stakes for stake-outs. Also, before doing canalizations farmers should construct the plantilla using measurements provided by TS of canal top and bottom, and canal depth. In Zone I-B meetings, both leaders and members agreed on the date for starting canalization work.[27] (In Zone I-A, only RALAT-A-SP-1 scheduled the start of canalization during their meeting.) They also began listing the names of farmers who pledged to work. In two Zone I-B areas (RAMC-6 and RALAT-D), the leaders and/or members agreed to procure additional workers from other rotational areas in the zone because the number of those who signed up as workers among them was insufficient. This was because many farmers had not harvested their crops as of October.

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[27]In two (of the three) Zone I-B preconstruction meetings convened in October, either the rotational-area leader or CO appealed to farmers who had harvested their crops to pay their irrigation fees. Both said that this would not only help NIA improve its services but also train them to be good payers which would be important to the irrigators' association once it assumed system operation and maintenance tasks. Their appeal was part of the irrigation service fee collection campaign which NIA launched in the same month with the assistance of COs and farmer-leaders. Particularly in Zone I-B, farmer-leaders actively assisted in the campaign until November by making it a part of the agenda of their rotational-area meetings.

Constructing farm ditches

After the farmers and TS had agreed on the route of a ditch and the design section had released the final design, farmers prepared to undertake ditch construction. One preparatory activity in which they were involved was the stake-out. Farmers often set the date of a stake-out during their preconstruction meetings. After the meeting, leaders assigned the farmers who would prepare a specific number of bamboo stakes although most leaders contributed the stakes themselves. ZEs and/or COs took charge of relaying the schedule of stake-outs to the project's survey section.

On the appointed date, the NIA survey team usually obtained the bamboo stakes from the rotational-area or ditch leader. At the leader's place, the team and the farmers (leaders and members) first numbered the stakes by 20's before bundling them by 5's (each bundle to be used for a distance of 100 meters). Then they proceeded to the construction site where the surveyors measured the distances between stations of the ditch and marked each stake with figures representing the depth of excavation and the height of backfill. The farmers helped by carrying the stakes and driving these into the ground. These procedures generally took more than an hour.

In the documentation zones, a total of 60 stake-outs were conducted between March and November 1981. In 49 of these, an average of four farmers joined the survey team while in 11, the activity was accomplished only by the surveyors. The nonparticipation of farmers in these stake-outs appeared to be due to their preoccupation with land preparation and other farm activities (between late May and August 1981) or their involvement in construction work (in November 1981). Where farmers participated in the stake-out, ZEs and/or COs sometimes accompanied them.

A second activity which farmers undertook before constructing a ditch was to prepare at least two bamboo plantilla or canal molds. If the ditch was the first to be built in a rotational area, ZE showed farmers how to prepare the plantilla using the measurements he provided for the canal depth and width (surface and bottom) at the beginning and end of a station. Farmers duplicated the plantilla whenever they desired to work simultaneously on two or more stations.

Between mid-March 1981 and January 1982, ditch construction in all rotational areas of the documentation zones was undertaken by farmers of that area. Farmers constructed the ditches that

would serve their own farms although in a few cases farmers from other areas participated in the construction. They accomplished canalization either through takay or pacquiao (see Table 5). Of the 68 ditches that had been built by January 1982, 24 were done through takay and 44 by pacquiao. Ditch construction on takay

Table 5. Selected information on ditch construction in Upper Lalo documentation zones: March 1982

Information	Zone I-A	Zone I-B	Total
Type of ditch constructed			
Main farm ditch	9[a]	8	17
Supplementary farm ditch[b]	24	21	45
Internal farm ditch	0	3	3
Drainage ditch	2	1	3
Number of ditches built			
Under takay	6	18	24
Under pacquiao	29	15	44
Total length of ditches (in meters) built			
Under takay	4,202	11,640	15,842
Under pacquiao	18,639	11,781	30,420
Total cost of ditches built			
Under takay	₱19,397	34,380	53,777
Under pacquiao	₱59,801	44,033	103,834

[a]This figure includes one MFD extension in RALAT-A-2. In the case of RALAT-A-SP-1 and RALAT-A-SP-2, the first SFD is considered as an MFD. In RALAT-A-3, the MFD is an existing ditch and not included in the figures for the zone.

[b]The figures for this type include SFD-1, SFD-2, SFD-2a, SFD-3, SFD-4, SFD-4a, and SFD-5 when applicable.

involved around 16 farmers in a rotational area; work on an average of 931 meters of ditch lasted for an average of 10 days, or about 93 meters per day. Construction by pacquiac drew around 12 farmers in an area; work on an average of 1789 meters per rotational area was normally completed within 15 days, or about 119 meters per day. During construction of a ditch, ZE checked on the farmers' work daily.

Completed ditches were inspected by TS before the project office made out payments to individual farmers (in the case of takay) or leader-contractors (in the case of pacquiao). Between March and June 1981, the surveyors conducted an accomplishment survey of a ditch upon being informed by ZE of its completion. This survey was usually undertaken within two weeks after construction was completed. Beginning June 1981, the accomplishment survey was replaced by ZE's investigation of completed ditch and his written certification that the ditch was built according to specifications. ZE did his investigation usually a day after work completion. By October, however, ZEs became too preoccupied with supervising ongoing construction tasks; hence, the surveyors were called back to do accomplishment surveys. After the surveyors' or ZE's investigation, an inspector from the Commission on Audit conducted an independent investigation preparatory to the release of payment.

Farmers' involvement in the accomplishment survey entailed accompanying the TS who conducted the work. During a few surveys and in all ZE-conducted investigations undertaken in the documentation zones between March and August 1981, one (usually a leader) to five members went along with TS.

Construction by takay. Farmers undertook ditch construction by takay between mid-March and August 1981. Under this arrangement, the rotational-area or ditch leader took charge of compiling a list of workers from his group. Sometimes he approached his members in the course of preparing the list. At other times the members presented themselves to him upon hearing of a forthcoming construction work. In campaigning for farmers' participation in construction, the leaders also told farmers that anyone desiring to work can just report to the construction site. Hence other farmers did this. Manpower for the construction of a ditch was usually derived from its beneficiaries, although members from other ditch groups in the area were welcome as additional workers.

Shortly before beginning construction work, farmer-workers usually selected by consensus the person who would check their attendance. Generally they chose either the rotational-area leader or their own ditch leader.[28]

Under takay, payment for each laborer should be computed on the basis of actual volume of work rendered. NIA estimated that the volume of work a person can accomplish in a day would be valued at the daily minimum wage of ₱14.93. In practice, however, the estimated cost for building a ditch, which was released in full to the laborers, was divided by the total person-days involved in construction. Since ditch construction was not paid on the basis of actual work accomplished but rather on a predetermined cost, the takay system operated like a fixed-price job with farmers receiving their wages after the completion of every ditch.

In implementing takay, two major problems emerged: (1) farmers complained because their payments were often delayed, and (2) NIA feared legal repercussions in cases where laborers received wages computed at a rate lower than the daily minimum wage. In addressing these problems, project management decided in June 1981 to adopt the following plans: (1) use the pacquiao system, (2) hasten the processing of papers so that the problem of delayed payment to laborers could be avoided, and (3) allow payment to be made to farmers even if the completed work did not constitute the 30-percent (of the total contract work) completion required for partial payment.

The project office's subsequent preparations for the implementation of the pacquiao contract (including biddings to determine the labor prices and drawing up the paper contracts) took about three months (July to September 1981). In the meantime that these preparations were being done, ditch construction continued under the takay system.

Construction by pacquiao. Beginning in October 1981 and until the conclusion of work in January 1982, ditch construction was undertaken by pacquiao. Under this arrangement, the project

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[28]For the task of checking workers' attendance, three rotational-area groups in the documentation zones each created a committee (called labor, labor and placement, or manpower inventory). None of the committees formed became functional because the area or ditch leader assumed the task.

office made out a contract to each rotational-area leader who served as contractor to construct a specific number of ditches within his rotational area for a fixed amount.[29] The contract price was set by the project office after conducting a bidding session to determine the labor prices for specific items in canalization work.

The bidding session was held on 13 August 1981.[30] It was the first among the three sessions that the project office conducted but the only one convened to determine labor prices for canalization. The other two sessions were called in order to set the labor costs for work items in canal structure construction by pacquiao. In all three bidding sessions, the rotational-area leaders submitted bid proposals. Their participation was urged in view of these possible advantages: (1) irrigators' organizations would be strengthened as the leaders worked out their bids with their members, and (2) the leaders would gain more experience in dealing with a government agency such as NIA by submitting bids and possibly negotiating on these bids, and their members would benefit from this experience.

The bidding session concerning canalization work was attended by a total of 49 leaders from the three Upper Lalo zones (I-A, I-B, and II-A) and one Lower Lalo zone (II-B), a four-member NIA bidding committee, and other NIA personnel.[31] Like the other two sessions, it was held at the NIA field office in San Francisco, Buhi and lasted for over an hour. Zone II-A ZE was presiding officer. Also, it observed the following process. First, the rotational-area leaders submitted their bids to the NIA

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[29]The rotational-area leader of Zone I-A RALAT-A-SP-1 took exception to this. He assigned the SFD-1 leader to be the contractor because he was preoccupied with family matters and could not attend to a contractor's tasks.

[30]A bidding session scheduled for 2 July 1981 was not convened because of ZEs' and COs' need for more time to explain to farmers the technicalities involved in the pacquiao contract.

[31]Lower Lalo Zone II-B leaders participated in two of the three bidding sessions because the prices to be determined would also be adopted for the construction of terminal facilities in Lower Lalo.

committee which, in turn, presented the government estimates for the work items whose labor costs were to be determined. Then the NIA committee declared the bids closed before selecting the lowest ones. It explained to the leaders that the chosen bids would still have to be forwarded to the project manager and the NIA regional irrigation director for approval. When the lowest bids turned out to be higher than the government estimates, after the session the leaders were asked to submit to the NIA committee a letter justifying their cost quotations.

Bids for the labor prices of canalization items were submitted by 27 rotational-area leaders from four zones (I-A, 7 leaders; I-B, 5; II-A, 8; and II-B, 7). The lowest among their bids turned out to be higher than the government estimates. This later led NIA to decide to adopt instead the government estimates of ₱6.50 and ₱8.50 for excavation and borrow, respectively, for computing the labor cost of ditch canalization. (These estimates were higher than those used earlier in the takay system--₱5.00 and ₱6.00 for excavation and borrow, respectively. NIA made this change in consideration of the current higher cost of living.) In adopting the government estimates, NIA aimed to avoid a rebidding session which would mean that farmers had to wait longer for the completion of canalization work in their areas. NIA decided, however, to utilize the farmers' bids (₱7.46 and ₱9.00 for excavation and borrow, respectively) for computing the labor costs of work to be done on the main and lateral canals. The project manager communicated and explained NIA's decisions in his 2 September 1981 letter to all rotational-area leaders.

By October 1981, farmers in the documentation zones were constructing the remaining ditches in their respective areas through pacquiao contracts. Under pacquiao arrangement, the rotational-area leader who served as contractor was responsible for procuring farmer-workers as well as handling payments. These workers usually came from the leader-contractor's own area. The farmer-workers themselves usually volunteered their services to the leader-contractors either prior to the start of work (for example, during an area's preconstruction meeting) or during the work period. Leader-contractors also exerted efforts to recruit workers particularly when they desired to complete the work immediately or when they had an inadequate number of workers to accomplish the work.

Most leader-contractors recorded their workers' daily attendance; a few delegated this responsibility to the ditch leaders or to the rotational-area secretary. The attendance

records were used as basis for determining compensation to individual workers. Leader-contractors usually divided the contract price among the farmer-laborers according to the number of person-days worked by each.

Instead of keeping track of their workers' attendance, two leader-contractors observed the following arrangements with fellow workers in their areas: (1) each worker constructed one or more stations (a station covered a distance of 20 meters) of the ditch, (2) the payment for constructing a station was determined by dividing the total contract price by the number of stations constructed in the area, and (3) workers received payment only after the canalization work was completed. One of these leader-contractors and his farmer-workers also agreed that: (1) workers whose lots were along the ditch route would construct the station that was adjacent to their lots, (2) a worker would finish building a station within one month, hence, he could employ the help of another farmer in the area, and (3) the worker in charge of a station would get the payment for its construction and would be responsible for compensating his assistants, if any.

As in the takay system, farmers also experienced delayed payments for works completed under pacquiao. This payment problem was brought up by Upper Lalo COs during their 11 January 1982 coordination meeting with TS. COs contended that it had hampered their organizing work because farmers, who were discontented over the late payments for completed canalizations, had shown increasing reluctance to participate in project activities. In this regard, the chief of the farmers' assistance division suggested a discussion with the construction division about the possibility of specifying the period within which farmers should be paid after completing the construction.

The problem about payment was also raised in a letter from the Zone I-A irrigators' association to the project manager dated 23 February 1982. The manager replied that the project office had drawn a flow chart for payment of pacquiao contracts by farmers.[32] This chart was prepared to determine the payment

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[32]The flow chart for payment of pacquiao contracts was discussed and approved during the 8 February 1982 project staff conference. As agreed upon by the staff, the processing of one contract payment would take three or four days. Also approved in the conference were flow charts for the processing of pacquiao contracts and for the purchases and payment of construction materials.

process, and to identify the section and personnel in the project office to be approached for payments of contracts. The presidents of the Upper Lalo irrigators' associations were provided copies of this flow chart.

Problems encountered. Aside from delayed payment for completed canalizations, farmers in the documentation zones encountered other problems in the construction of ditches. The common problems were inclement weather and lack of manpower. Problems regarding the weather occurred particularly in November 1981. Insufficient manpower, on the other hand, was common especially in June (at which time farmers were busy with land preparation) and October (during which time farmers were preoccupied with harvesting their crops).

Other specific but one-of-a-kind problems and their effects on farmers' construction activities and/or their relationship with TS or fellow farmers are as follows.

1. Right-of-way problem. In Zone I-B RALAT-E-2, farmers had to suspend the construction of SFD-1 after working for over a week in June 1981 because two farmers had refused to allow the ditch to be constructed on their farms (see the case of JP and PM in the section on securing right-of-way donations). This problem delayed the work for about two months.

2. Delayed communication of a reduction in construction cost estimate. In Zone I-A RAMC-4, farmers threatened to abandon in June 1981 the construction of the MFD when they learned eight days after starting its construction that the cost was reduced from ₱4774 to ₱3655. After confirming the reduction, the rotational-area leader wrote the project manager requesting a meeting with a NIA representative who will explain this matter to farmers. During this meeting on 8 June, the head of the planning and cost evaluation section gave the following reasons for the decrease in cost: (a) volume of work was less because it entailed the rehabilitation of an existing canal, (b) canal length was shortened owing to design revisions which resulted when two farmers consented to give right-of-way, and (c) only one of the two canal embankments needed to be constructed because of the decision to use the adjoining main canal embankment. The farmers accepted these reasons but noted that they should have been properly and promptly informed of any modification in cost.

3. Insufficient construction budget. About a month before the construction of SFD-1 in Zone I-A RAMC-2, farmer-leaders told ZE that the estimated cost of ₱750.40 for rehabilitating this ditch was an inadequate compensation for the amount of work that they thought would be entailed. Thus they feared that they might be taking on the work as a loss. After looking into this matter, TS increased the cost to ₱1,211.74. In August 1981, farmers began constructing SFD-1 under the takay arrangement. However, after completing less than half the length (900 meters) of the ditch in eight days, they suspended the construction. They discovered that the increased cost was still insufficient to compensate for the heavy backfilling job required to complete the ditch. During the project manager's 19 August field visit, SFD-1 leader discussed the problem with him. Subsequent field investigations conducted by TS led to a further increase in cost from ₱1,211.74 to ₱2,145.97. In September, farmers still felt that the difference of ₱943.24 was inadequate to cover the necessary work on the uncompleted ditch portion. But in November, following ZE's encouragement they agreed to resume construction work. The remaining ditch portion was completed through the pacquiao agreement.

4. Unfair sharing in the pacquiao contract price. About mid-January 1982, four (out of a maximum of 25) farmers from Zone I-A RALAT-A-2 who participated in the construction of four ditches (MFD extension, SFD-3, SFD-4, and SFD-5) complained to their zonal association president about the payment made to them by their rotational area leader-contractor (EP). These farmers expected EP to divide the contract price among the workers on the basis of the person-days they devoted to the work. EP, however, paid them the daily rate of ₱15.30. This pay arrangement allegedly resulted in an undetermined profit for EP. While EP claimed that the issue had been resolved with the workers before the four ditches were constructed, a farmer (FA) who was the most vocal among the complainants denied this claim.[33] FA expected less farmer-participation in EP-led activities because this issue would erode the farmers' confidence in EP's leadership.

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[33]Both EP's and FA's claims were made during interviews conducted by the participant-observer.

> In February, one of the Zone I-A COs and the association president investigated the reported disenchantment of a majority of RALAT-A-2 workers with EP. During the 13 February farmers' meeting in the area, the issue was raised by the president who chaired the meeting in EP's absence (he was recuperating from an illness). The farmers expressed reluctance to voice out their complaints against EP. Nonetheless, the president advised that should they wish to push the issue, they should put in writing their complaints and suggested actions. At least five farmers should sign the letter of complaint. It should be submitted to the association's board of directors for the latter's consideration. The president's advice was not acted upon, however, because most farmers claimed later that they had forgiven EP whom they felt had been adequately punished for his wrongdoing. (EP reportedly spent his gains from the contract by indulging in a two-week drinking binge. In one of his drunken states, he fell asleep on the rain-drenched ground. Consequently, he became seriously ill and was hospitalized.) Even FA did not want to pursue the matter because this could ruin his friendship with EP. By late February, EP resumed his activities as rotational-area leader and zonal official.

Despite problems, all ditches in the documentation zones were completed in January 1982 or five months before the project's completion date (June 1982) for building terminal facilities in Upper Lalo.

Constructing canal structures

The construction of canal structures in the Upper Lalo documentation zones had been ongoing for six months (July to December 1980) when the construction of terminal facilities was suspended in January 1981. During this period, the project had built 35 structures by direct administration.

When the construction of terminal facilities was resumed in March 1981, the project office continued to build canal structures by direct administration because the farmers' involvement was concentrated on the construction of ditches which began in the same month. Construction under direct administration entailed that the office hired through its ZEs both the skilled and unskilled workers who would install the structures. A majority of these workers were nonfarmer-laborers who had been employed by NIA at

one time or another. In a few cases, however, the unskilled workers included farmers from the rotational area or zone where the structures were located. The hiring of nonfarmer-laborers by the project office was generally accepted by the farmers.

Starting in December 1981, farmers of some rotational areas where ditch construction had been completed undertook by pacquiao contract the construction of the remaining structures in their areas.[34] But in those rotational areas where the farmers did not feel confident enough to install structures, the project office continued to undertake the task by direct administration.

Before giving out pacquiao contracts for canal-structure construction, the project office conducted two bidding sessions to determine the standard labor prices of specific work items including hauling jobs. The first session, which was held on 24 August 1981, was attended by 46 leaders from all three Upper Lalo zones (I-A, I-B, and II-A) while the second session, which was convened on 22 September 1981, was attended by 25 leaders from all the Upper Lalo zones and one Lower Lalo zone (II-B). As in the bidding session for canalization work items, only the rotational-area leaders submitted bid proposals in these two sessions.[35]

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[34]In the 11 January 1982 CO-TS coordination meeting, the Upper Lalo COs and ZEs were advised to list the rotational areas whose leaders were interested in contracting the construction of canal structures. For areas whose leaders did not show interest, they should ask the rotational-area leaders to submit the names of farmers who would like to be employed by NIA as daily wage laborers.

[35]In the Zone I-A lateral and main-canal group leaders' meetings (20 and 21 August 1981, respectively), a majority of the leaders expressed reluctance to participate in the bidding for labor price for constructing canal structures. The reluctance stemmed basically from their lack of knowledge and skills to build the structures as well as their fear that this might lead to low bids and losses in the deal. However, a few leaders argued in favor of participation in bidding, negotiating, and entering into contract with NIA. These leaders believed that the activities would give them experiences that would be valuable for running their associations. Moreover, ZE had pointed out that NIA would make available a skilled foreman with whom farmers could consult regarding the specifications for erecting structures.

In the first bidding session, each of the 21 rotational-area leaders from the Upper Lalo zones made their bids on the labor costs of constructing a specific type of structure (such as, turnout, division box, road crossing, and combined check and drop) and of hauling a specific quantity of construction material (for example, a bag of cement, a kilo of steel bars, or a piece of concrete hollow block). Their lowest bids on the hauling jobs which turned out to be lower than the government estimates were later approved for adoption by NIA. This approval was relayed to the leaders during the second session.

However, the lowest bids on the canal structures were disapproved by NIA for these reasons. The construction of a structure would involve different quantities of work items (for example, structure excavation and backfilling, installation of steel bars, and setting of concrete hollow blocks). In view of this, NIA felt that it would be only fair to farmers as well as appropriate that they bid on the costs of the actual quantities of work items pertinent to a structure, rather than on the cost of the entire structure itself. Therefore, NIA nullified the bids on entire structures and called a rebidding session.

Notice on the rebidding was issued to rotational-area leaders on 11 September.[36] It contained information on the work items involved, their approximate quantities, and the government estimates for specific quantities of work items. During the rebidding, NIA's reasons for rejecting the earlier bids on canal structures were explained to the leaders. Subsequently, the leaders made 14 new bids. The lowest among these bids were mostly slightly higher than the government estimates. These were later accepted for adoption by NIA.

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[36] During the 25 September CO-TS coordination meeting, the Upper Lalo COs' supervisor pointed out that a bidding regulation stipulating that notice to bidders be given 10 days before the bidding was not followed during the rebidding for canal structures. He said that farmers were only given the notice three days before, and some rotational-area leaders did not even receive it. Because of the delayed notice, COs had insufficient time to disseminate and discuss the matter with farmers. He surmised that this probably brought about the submission of low bids.

Between the resumption of the construction of canal structures in March 1981 and the conclusion of this work in February 1982, a total of 90 additional structures were built in the documentation zones (see Table 6).[37] The majority of these structures were identified by farmers and TS during the negotiations for revisions of designs of terminal facilities. Of the 90 structures, 67 (35 in Zone I-A and 32 in I-B; see Table A12) were built by the project office through direct administration while 23 (13 in Zone I-A and 10 in I-B) were built by the farmers through the pacquiao contract.

Construction of canal structures focused primarily on the installation of farm ditch crossings (46 percent) and division boxes (19 percent). Construction by administration involved 1 to 11 laborers, a majority of whom were NIA laborers brought into the project area; these works lasted for 2 to 25 days. On the other hand, pacquiao-contracted works drew in between 2 and 8 farmer-workers for 3 to 21 days (see Table 6).

In the 6 (of a total of 17) rotational areas where canal structures had been built through pacquiao contract, the rotational-area leaders served as contractors. Farmers provided labor while NIA supplied the materials. The leader-contractors hired workers from among their farmer-members. ZE supervised their work.

Conducting inventories of completed terminal facilities

In February and March 1982, the project's water management section conducted field inventories of completed terminal facilities in all rotational areas of the documentation zones. The inventories aimed to: (1) update the farmers and NIA of the status of system facilities in these areas, (2) identify which of the constructed facilities were functional or nonfunctional, and (3) identify what facilities remained to be constructed in an area.

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[37] In October 1981, the construction of several structures located on the main canal necessitated a shutdown of system operations during the daytime for a week.

Table 6. Construction arrangements for canal structures built between March 1981 and February 1982 in the Upper Lalo documentation zones[a]

Construction arrangement	Canal structures installed	Range of size of work force	Construction period
Direct adminstration (67)[c]	Turnouts (2)[b] Division boxes (10) Turnout with division box (1) Farm ditch crossings (31) Road crossing (1) Road crossing with division box (3) Check and drop (6) Ditch transitions (8) Drainage crossings (5)	1-11	2-25 days
Under pacquiao contract (23)[c]	Division boxes (7) Farm ditch crossings (11) Farm ditch crossing with division box (1) Road crossing (1) Road crossing with division box (1) Check and drop (1) Floodway (1)	2-8	3-21 days

[a]The distribution of the structures by construction arrangement and zone is presented in Table A12.

[b]The figures in parentheses pertain to the number of specific structure installed.

[c]The figures in parentheses refer to the total number of structures constructed under the identified arrangement.

The water management technologists who undertook the inventories constantly coordinated with COs who mobilized leaders to participate in the activity. Rotational-area leaders were asked to set the date of the inventory in their area and to make themselves available on said date. During an inventory, leaders were encouraged to recommend to the project office, through the technologists, specific actions to be taken on nonfunctional facilities (that is, those to be repaired or deleted). Moreover, they were asked to specify what additional facilities needed to be constructed in their area prior to the delegation of partial system operation and maintenance tasks to farmers.

The field inventory in a rotational area took between half a day and one day; it basically involved from one to six leaders although an undetermined number of members were usually on hand when the irrigation facilities near their farm were inspected by the inventory team. Reports on the results of the field inventory showed that farmers in 13 of the 17 rotational areas of the documentation zones suggested or requested the lining of a ditch or ditch portion and/or construction of additional structures particularly crossings (see Table A13). Moreover, in these rotational areas 6 ditches (representing about 9 percent of the total number of ditches in the two zones) were found to have a weak or eroded embankment, and 7 structures (8 percent of the total number of structures in the two zones) were assessed to be defective. No problem was reported in the remaining 4 areas of the documentation zones.

Rehabilitating major system facilities

Large-scale rehabilitation work in the Upper Lalo system was undertaken on the main canal in May 1981 and on the diversion dam in February 1982. As of end of March 1982, the rehabilitation of the dam was still ongoing. To facilitate the improvement of the main canal, NIA implemented a shutdown of system operations. NIA proposed a similar shutdown in connection with the work in the dam. Farmers in the documentation zones were among those whom NIA hired to undertake the rehabilitation activities.

Main canal and structures. To undertake this work, NIA partially stopped system operations for 28 days (4-31 May 1981) in Upper Lalo Zones I-A, I-B, and II-A, and for 35 days (27 April-

31 May 1981) in Lower Lalo Zone II-C.[38] As early as March 1981, the project office announced the operations shutdown to farmers through its field personnel as well as through a radio broadcast and letters from the project manager. NIA originally planned a complete shutdown but, at farmers' request, it made irrigation water available for their standing crops during Saturdays and Sundays when no construction occurred.

In the documentation zones, farmers were notified about the shutdown primarily through the joint efforts of COs and the system personnel. In Zone I-A, both oral and written notifications were undertaken with the help of farmer-leaders and barangay officials while in Zone I-B only oral notification was done with the assistance of farmer-leaders. Oral notification was accomplished by means of a house-to-house and person-to-person campaigns and/or barangay meetings; in turn, written notification was by means of posters.

The recruitment of laborers for the rehabilitation of the main canal portion traversing Zones I-A and I-B was handled by COs at the request of ZEs. During meetings and groundwork, COs asked farmers to recommend laborers from their groups. To qualify as laborers, the farmers had to be between the ages of 18 and 50 years. As a rule, laborers of a canal section being rehabilitated in a zone came from and worked only in that zone. They were hired by NIA under takay agreement.

Diversion dam. The task of rehabilitating the diversion dam began in February 1982 with NIA laborers undertaking the entire work. By March, 20 farmers (17 from Zone I-A and 3 from Zone II-A) were employed as additional unskilled workers as a result of the Zone I-A association president's (former RAMC-4 rotational-area leader) crusade to keep the spirit of the participatory approach. The president's efforts are described in Case 1 below. In addition, the Zone I-A association's objections to NIA's proposed system

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[38]By shutting down system operations, the project office also intended to be able to put a stop to farmers' varied planting schedules and afterwards be able to institute a uniform cropping pattern in a zone for water management purposes.

operations shutdown which would facilitate dam rehabilitation are presented in Case 2.

Case 1. The employment of NIA laborers in the dam-site construction was one of the issues discussed in the 22 February 1982 meeting of Zone I-A association officers and leaders. The association president contended that such arrangement violated a NIA-farmer agreement that construction works in the system would be undertaken by farmers. Moreover, it contradicted the project's participatory objective. On behalf of the association, the president raised these matters in his 23 February letter to the project manager. The manager wrote back on 24 February explaining that the construction of major structures like the diversion dam was a highly technical job, thus, NIA employed its skilled workers to do it. He also said that farmers would be given the opportunity to participate as unskilled workers on a rotation basis. The manager suggested that in March, for instance, 10 farmers from Zones I-A and I-B would be hired. In April, a new batch of farmers from the same zones would be drawn into the construction with the number of farmers to be determined on the third week of March.

Thus in late February, the association president recommended to the chief of the construction division 10 Zone I-A farmers for employment in the dam-site construction. Later, he learned that three recommendees who resided in Antipolo, Buhi (the site of the dam) were substituted by Zone II-A farmers. On 2 March (at the outset of farmers' construction participation), he went to great lengths, including approaching several key project personnel, to obtain the project manager's approval to hire the three farmers. The following day, however, the foreman of the construction team refused to accept these farmers despite the president's insistence that the project manager had given his approval. The foreman said that the chief of the construction division had previously instructed him not to employ the three farmers. Consequently, the president became so enraged that he stoned the gatekeeper's office beside the construction site and challenged all NIA laborers to a duel although none of them accepted it. He also ensured that construction work came to a standstill late in the afternoon of that day and until the project manager saw him on the next day.

Learning of these incidents, on 4 March the project manager talked with the president at the dam site. After some discussions, the three farmers in question were hired. Moreover, the manager told the president that the latter could recommend more farmers for the job. On 8 March, seven Zone I-A farmers were added to the construction team.

During the 31 March meeting of the three Upper Lalo association presidents, the Zone I-A president recounted the dam-site construction issue to his colleagues. He quoted the project manager as saying that doubling of the present labor force at the dam site would still fail to meet the necessary manpower requirements. He also claimed that eight NIA laborers who began reporting for work on 30 March had told him that NIA would be hiring 40 more laborers in the succeeding weeks. Zone I-B president then remarked that when he recommended 10 farmers from his zone, he was told that NIA had no need for additional laborers. Both Zones I-A and I-B presidents agreed that NIA's response clearly violated the arrangement of rotating employment of laborers among the three Upper Lalo zones. In turn, Zone II-A president expressed ignorance of this arrangement. Finally, all three presidents decided to discuss this issue during their 5 April meeting with the project manager.

Case 2. Like the dam-site construction issue, NIA's proposed system operations shutdown was discussed in the 22 February 1982 meeting of Zone I-A officers and leaders. This came after the water management section head announced the plan to completely shut down operations from 1 April to 15 May 1982. The shutdown would facilitate the completion of rehabilitation works at the dam site. A number of leaders objected to the scheduled shutdown because their crops, which had just been transplanted, would be destroyed. They also explained that Zone I-A farmers did not observe the cropping pattern suggested by the water delivery scheme for Upper Lalo because: (1) farmers participated in ditch constructions, and/or (2) farmers decided to transplant their crop only after the ditches had been completed to ensure adequate water supply to their farm. The leaders proposed two alternative arrangements to the system shutdown: resume system operations on Saturdays and Sundays during the period 1 April to 15 May, or postpone the commencement of the shutdown from 1 April to 15 April.

The leaders' objections to the shutdown and their proposed alternative arrangements were communicated to the project manager in the association president's 23 February letter. The manager's reply stated that: (1) the request for resuming system operations on weekends could not be granted for this would delay the work on the dam rehabilitation, and (2) the proposed 15-day postponement of shutdown would push the start of wet-season farm operations to June and transplanting to July; bad weather conditions which usually prevailed in these months would adversely affect the crop in its critical growth stage. In view of these, the president asked other association officers to notify farmers that the shutdown would take place as scheduled.

On 13 March, during the contract negotiation of Zone I-A association with the NIA assistant administrator for operations, a board member referred the shutdown issue to him. In answer to the assistant administrator's query, the president said that approximately 40 percent of crops in Zone I-A would be adversely affected should the shutdown begin on schedule. Farmers' complaints regarding the shutdown were referred to the project manager and the chief of the engineering division (concurrently acting chief of the operations and maintenance section). Subsequent discussions between the association and the project office led to the acceptance of the farmers' proposal to begin the shutdown period on 15 April.

Organizing Farmers for System Operation and Maintenance

Between late November 1980 and June 1981, farmers were organized into rotational-area groups; in December 1981, these groups were organized into zonal irrigators' associations which were expected to assume partial system operation and maintenance responsibilities upon the completion of the rehabilitation of the Upper Lalo system. It was hoped that the experiences of farmers in organizing themselves into an association and in working as a group would foster unity and hence strengthen their association. It was also expected that their collective involvement in the design and construction of their own irrigation facilities would enable them to closely identify with their system and because of this, care enough to manage it properly.

In view of their associations' eventual assumption of partial system management, beginning in late May 1981 farmers had undertaken specific activities which brought them nearer to achieving this goal. These activities may be divided into two sets: (1) formalizing the organization of the zonal irrigators' associations and (2) negotiating for the associations' partial operation and maintenance contracts with NIA. These tasks fully engaged the attention of farmer-leaders particularly between July 1981 and March 1982. In the documentation zones, farmer-leaders convened a total of 47 sessions (about five per month) to prepare themselves for the various activities related to the formation of their associations and the contract negotiations with NIA. Moreover, they conducted 67 rotational-area meetings (about seven per month), and three zonal assemblies to inform their respective members about their activities and to elicit their members' suggestions and reactions to their plans and accomplishments.

Formalizing the organization of the zonal irrigators' associations

Farmers of the rotational-area groups which formed the irrigators' association in a zone began preparing in September 1981 for the registration of their association with the Securities and Exchange Commission (SEC). Through this registration, the association would be recognized by the government and thus it would gain a formal status.

To learn the requirements for SEC registration, the rotational-area and ditch leaders attended together with COs the orientation seminars that NIA conducted on 23 September (for Zone I-A) and 29 September (for Zone I-B). NIA provided a trainor for the seminars and the leaders prepared the sites for the seminars. The latter's preparations led them to form committees which would ensure that adequate lighting was provided during the evening portion of the seminar. The committees were also assigned to procure chairs for seminar participants. In addition, Zone I-B leaders created a committee to prepare food for the participants.[39]

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[39]In Zone I-A, the committee chairmen were appointed by the leaders and COs. They did not choose their members, hence, they undertook the committees' tasks by themselves. In Zone I-B, the

The Zone I-A seminar held at the NIA field office in San Francisco, Buhi was attended by 22 rotational-area and ditch leaders (of the 36, excluding assistant ditch leaders) and 8 NIA personnel. In turn, the Zone I-B seminar conducted at the barangay chapel in Santa Isabel, Buhi was attended by 29 (of the 32) leaders and 7 NIA personnel. Both were whole-day affairs lasting from 8 to 9 hours.[40]

The information concerning SEC registration which leaders received during the seminars may be summarized as follows.

1. A registered association has a legal personality which enables it to transact business and enter into negotiations with other government-recognized agencies.

2. In registering with SEC, the irrigators' association--a nonstock corporation--must submit three copies of the modus operandi (signed by the board of directors), three copies of the membership list, three copies of the incorporation papers, and five copies of the articles of incorporation.

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committee chairmen were appointed by the leaders. The chairmen, in turn, chose their own members from among the other leaders (in the case of the lights and chairs committees) or from among the leaders' wives (food committee). The Zone I-B committees were all functional.

[40]The seminars observed generally the same activities, namely: (1) surfacing of participants' expectations from the seminar and statement of NIA's seminar objectives, (2) explanation of the rationale for registering an association with SEC and of the powers and privileges of a registered association, (3) definition of some basic terms like corporation, association, incorporators, and members, and (4) description of the procedures for formulating the irrigators' association's bylaws, and for incorporating and registering the association with SEC. (In addition to listing their expectations from the seminar, Zone I-A leaders were asked to enumerate the indicators of a viable association. The common indicators mentioned were: members and officers must have cooperation, and members are well informed about the association.) Seminar participants were provided mimeographed copies of a list of powers and privileges of a registered association,

3. The procedure for registering the irrigators' association with SEC involves 10 steps, as follows.[41]

   a. The rotational-area and ditch leaders, under COs' guidance, will initially draft the bylaws and articles of incorporation. Then they will present the drafts of these documents to their members for comments during public meetings in their respective rotational areas. After the meetings, they will finalize the drafts by incorporating into these their members' suggested revisions.

   b. The leaders will call a general assembly of farmers from an entire zone to ratify the bylaws, elect the members of the board of directors, and elect the chairmen of the standing committees, namely, membership and education, irrigation management, audit and inventory, and financial management. During the assembly, a temporary chairman and a temporary secretary will be appointed to preside over and take down the minutes of the assembly, respectively.

   c. The board of directors will hold its first meeting to elect the association officers (composed of the president, secretary, and treasurer). The elected president, in turn, will appoint the main-canal and the lateral-canal irrigation watermasters with the approval of the board. Prior to the election of officers, the board will appoint a temporary secretary to take down the minutes of its meeting.

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a suggested bylaws structure, a sample bylaws, a sample articles of incorporation, and sample forms for accomplishing other registration requirements like minutes of the association's general assembly and first board of directors' meeting. (Except the list of powers and privileges of a registered association which was in Bikol-Naga, the documents were in English.)

[41] In explaining these procedures, the Upper Lalo COs' supervisor used a flow chart. After the explanations, he illustrated a sample organizational structure of an irrigators' association.

d. The board of directors will prepare the paper requirements for SEC registration, including the bylaws and the articles of incorporation. The minutes of the proceedings of the general assembly and the first board meeting are to be attached to the articles of incorporation. The board will then submit the required papers to the NIA regional irrigation office. The regional office will send the papers to the NIA central office which will submit these to SEC for registration. If the requirements are found to be incomplete, SEC will send them back to the association through the same routes. The latter fulfills the necessary documents and goes through the same process of submission.

Drafting and ratifying the incorporation papers. Using the NIA-provided sample documents, the Zones I-A and I-B irrigators' associations drafted, finalized, and ratified their respective bylaws and articles of incorporation. They did these activities under the COs' guidance. The process from formulation to ratification of the incorporation papers took about three months (late September to December 1981). For both associations, it involved the following stages.

1. During their SEC orientation seminar in late September, the rotational-area and ditch leaders of each zone divided themselves into three groups. Each of these groups devised a first draft of their association's bylaws (Zone I-B's case) or articles of incorporation (Zone I-A's case). At the end of their seminar, Zone I-A leaders had three initial drafts of the articles of incorporation but had yet to consolidate these. Owing to lighting problems, they deferred the formulation of the bylaws. In turn, Zone I-B leaders made three initial drafts of the bylaws but had yet also to consolidate these. They postponed the drafting of the articles of incorporation because they wished to spend more time in studying the sample document.

2. In October, the rotational-area and ditch leaders of each zone divided themselves into two groups which first met separately and then jointly to complete the task of drafting both the bylaws and the articles of incorporation. After they completed this task, they gave the drafts of the incorporation papers to COs for typing or reproduction.

3. In November and up to about mid-December, the rotational-area and ditch leaders presented the drafts of the by-laws and articles of incorporation to their members for comments during meetings in their rotational areas. During these meetings, the leaders read and explained the various provisions in the proposed documents. (In Zone I-B RAMC-SP-1, the rotational-area leader even circulated among his members photocopies of the documents.) The leaders also encouraged their members to ask questions on or suggest necessary changes in the provisions. In both zones, the members approved the proposed articles of incorporation. However, they questioned or suggested revisions in the proposed bylaws. The bylaws provisions which Zones I-A and I-B members commonly questioned or sought to revise pertained to qualifications for association membership, payment of membership fee, and qualifications and election of association watermasters. In addition, Zone I-A members sought modification in the provisions on the collections of irrigation service fee, fines for violation of water allocation rules, and other dues; Zone I-B members focused on the functions of certain association officers like the treasurer, election of the members of the association's standing committees, and uses of the association's funds.

4. After mid-December, the rotational-area and ditch leaders of each zone reconvened and accomplished the following tasks. Taking into consideration their members' suggested revisions, they finalized the drafts of the bylaws and articles of incorporation. They also planned the details of the zonal general assembly during which the members would ratify these documents and elect the association officials. The details included the time, date, and place of the assembly, the program of activities, the specific tasks of each leader, and the formation of an election committee. In addition to planning these details, Zone I-A leaders set the procedure for electing the members of the association's board while the Zone I-B leaders devised a notification campaign and set the deadline for the filing of certificates of candidacy.

5. In late December, during their zonal general assembly the members ratified their association's bylaws and articles of incorporation. The Zone I-A assembly which lasted for over 5 hours was attended by 82 farmers

(about 26 percent of the zone membership) and 2 COs. In turn, the Zone I-B assembly which lasted for 6.5 hours was attended by 129 farmers (about 37 percent of the zone membership), 3 COs, and the Upper Lalo COs' supervisor. In both assemblies, the members first chose a leader to act as the presiding officer. (In the Zone I-B assembly, a farmer was also selected to serve as temporary secretary.) Then one leader (Zone I-B's case) or more (Zone I-A's case) read and explained the various provisions of the bylaws and articles of incorporation. (In the Zone I-B assembly, before the reading commenced the leaders posted sheets of Manila paper on which these provisions were written.) The members discussed the provisions and agreed to delete one of those in the bylaws (the annual dues requirement for Zone I-A and the membership fee requirement for Zone I-B). Finally they ratified the bylaws as amended (that is, with a deleted section) and the articles of incorporation as presented.[42] In the ratified bylaws, the Zone I-A association was named the Buhi Zone I-A Upper Lalo Farmer-Irrigators' Association, Inc. (BULFIA) while the Zone I-B association was called the Upper Lalo River Irrigators' Beneficiary Association, Inc. (ULRIBA).

Electing the zonal officials. The Zones I-A and I-B associations elected their zonal officials right after ratifying their bylaws and articles of incorporation. These officials consisted of the members of the board of directors, the members of the four standing committees, and the main-canal and the lateral-canal watermasters (see Figures 11 and 12 for the organizational setup of the associations). The conduct and the results of the election of officials during the December 1981 zonal assemblies may be summarized as follows.

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[42] Before the bylaws and articles of incorporation were ratified in Zone I-A, a leader asked if this activity could be carried out despite a lack of quorum. Another leader said that postponing both the ratification and the election of officials might not be feasible because fewer members might attend a subsequent general assembly. The members present apparently agreed with him for they decided to proceed with the ratification and election.

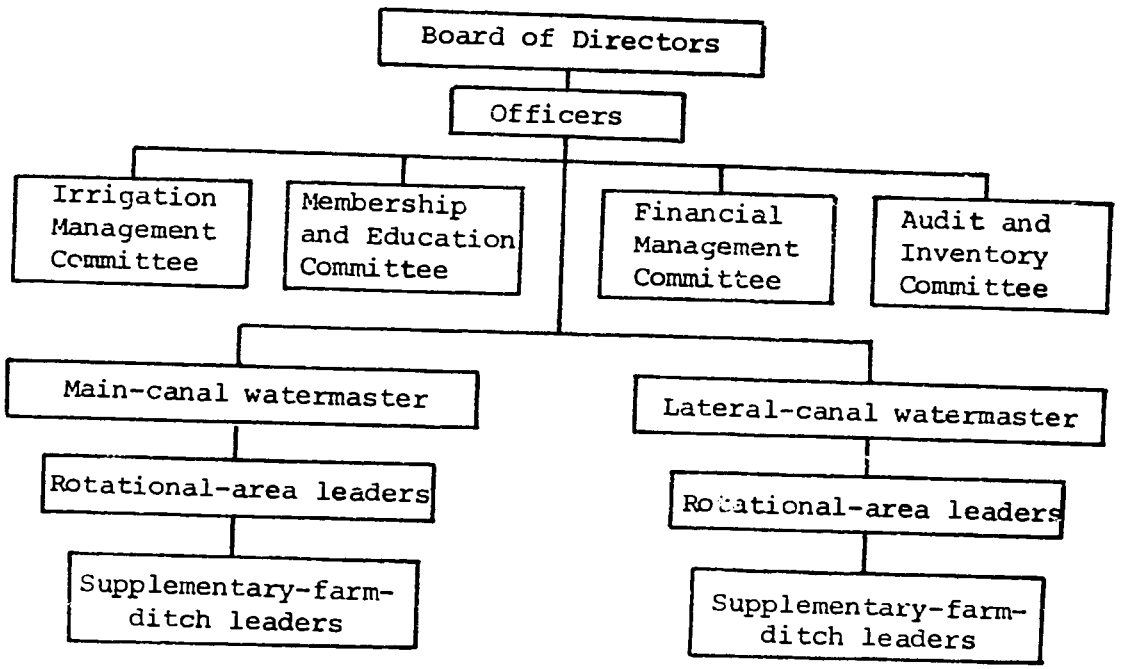

Figure 11. Organizational structure of the Buhi Zone I-A Upper Lalo Farmer-Irrigators' Association, Inc.

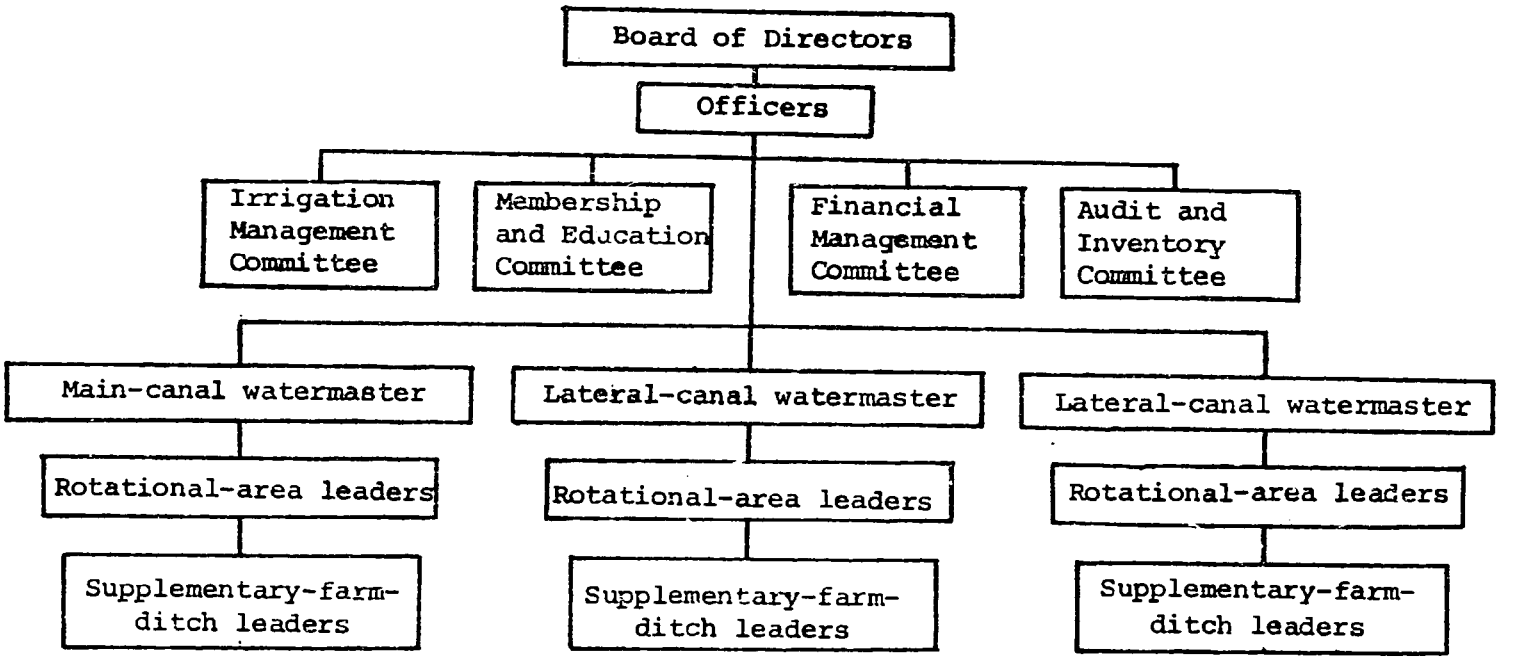

Figure 12. Organizational structure of the Upper Lalo River Irrigator-Beneficiaries' Association, Inc., Rinconada/Buhi-Lalo project

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1. In both zones, a committee on election supervised the election proceedings. The Zone I-A committee was composed of three high-school students from San Francisco, Buhi; while the Zone I-B committee was comprised of a school teacher and three farmer-members.

2. In Zone I-A, the candidates to the various positions were all nominated orally during the assembly. For board membership, members of each rotational area in the zone named their respective nominee or nominees because the board would be composed of one representative per area. But nominations for other positions were made without considering area affiliation.

   In Zone I-B, on the other hand, the candidates to the various positions were those who filed a certificate of candidacy one day prior to the election; they came from any of the zone's rotational areas. However, because for some positions fewer than the needed number of persons had filed a certificate of candidacy, nominations for additional candidates were obtained from the floor before the election.

3. In Zone I-A, members elected eight of the nine members of the board, each of whom represented a rotational area in the zone. (The remaining member of the board who should represent PALAT-A-3 could not be elected because no one from this area attended the assembly. This official was appointed by the board during its first meeting on 6 January.) Of the eight elected members of the board, three were chosen by acclamation (they were lone nominees in their respective areas); the other five were selected by secret ballot (from among two or three candidates in their own areas).

   Moreover, farmers elected the members to the association's four standing committees. These committees had a total membership of 10: financial management, 2; irrigation management, 4; membership and education, 2; and audit and inventory, 2. One committee was formed at a time; voting for its membership was done by raising of hands. The members of each committee later met to select their chairman.

4. In Zone I-B, farmers elected five members of the board who came from four rotational areas of the zone. These members of the board were elected by secret ballot from among 11 candidates.

   The farmers also elected 11 persons to positions in the association's 4 standing committees: membership and education, 3; complaint and action, 3; financial management, 2; and irrigation management, 3. The committee members were chosen from 18 candidates. For each committee, the candidate with the highest number of votes became the chairman and the other one or two candidates with the next highest number of votes became the committee member or members.

   Moreover, members elected by secret ballot the association auditor (from among four candidates), the main-canal watermaster (from two candidates), and the lateral-canal watermaster (from among five candidates).

After the zonal elections, the board of directors of each zone conducted its first meeting to elect the association officers. Zone I-A board members met on 6 January 1982 and elected from among themselves a president, a vice-president, a secretary, a treasurer, and an auditor. In turn, Zone I-B board members who met on 24 December 1981 elected from among themselves a president, a secretary, and a treasurer. In both zones, the election was done by secret ballot.

In all, then, Zone I-A had 20 zonal officials (7 of whom occupy 2 positions while Zone I-B had 19 (3 of whom held 2 positions). These zonal officials were predominantly male; at least two committee members were female. Their average age was 46 years; their average year of formal schooling, 8 years. They cultivated about 1.5 hectares each. Around 61 percent of them were owner-cultivators, another 23 percent were share tenants, while the rest held multiple tenurial status (for instance, owner of a parcel while cultivating another parcel as a tenant) or had recently became amortizing owners or lessees. Almost all the members of the board had previously served in the barangay council or other community organizations (for example, Samahang Nayon, Agrarian Reform Beneficiaries' Association, Parent-Teachers' Association). Among the other association officials, about half had previous or current involvement with barangay organizations other than the irrigators' associations.

The association officers and other zonal officials took their oaths of office before the project manager during formal ceremonies held in their respective areas. The Zones I-A and I-B ceremonies (which took place respectively on 10 March and 9 January 1982) were also attended by each zone's rotational-area and ditch leaders, COs, some association members, NIA personnel, and guests.

Negotiations for the associations' contracts with NIA

Formal negotiations between NIA and the irrigators' associations of Zones I-A and I-B concerning the associations' role in the operation and maintenance of the Upper Lalo system began in September 1981; these were still ongoing as of end of March 1982. Farmers started preparing for these negotiations, however, in late May 1981. Their activities involved the conduct of leaders' conferences and leaders' meetings with their respective members following the conferences.

Leaders' conferences. Five leaders' conferences were convened prior to the first formal negotiations between the farmers and NIA. These conferences were held in May, June, and August 1981. The May conference was attended by 14 project personnel and 27 rotational-area leaders from all 3 Upper Lalo zones (who each represented 1 of the 26 areas in the 3 zones, except 1 who represented a proposed extension area of Zone I-A RALAT-A-2). In turn, the two conferences in June separately convened both rotational-area and ditch leaders of Zones I-A and I-B. The Zone I-A conference was attended by 28 leaders (who represented over half the number of leaders in the zone) and 16 project personnel; the Zone I-B conference, by 36 (of the 37) leaders, 8 farmer-observers, and 12 project personnel. Finally, the first August conference was attended by 26 rotational-area leaders (or 1 from each of the 26 areas in the 3 Upper Lalo zones) and 14 project personnel; the second conference, by all the rotational-area leaders from the 3 zones, 22 ditch leaders, and 13 project personnel.

The objectives of these conferences and the activities which farmers and COs of Zones I-A and I-B undertook prior to, during, and after the conferences are as follows.

The May conference aimed to elicit from the rotational-area leaders their problems concerning system operation and maintenance practices and their perceived solutions to these problems, and to determine if they approve of NIA's plans regarding the organization of farmers into irrigators' associations and the turnover of partial system operation and maintenance responsibilities to these associations.

Prior to the 22 May conference, Upper Lalo COs met with other personnel of the farmers' assistance division of the project to draw up the details of the conference and conduct a role-playing session among COs who will facilitate each activity in the program. As soon as the conference details were worked out, COs informed the rotational-area leaders in their zone about these. They also spent time with each leader to discuss his opinions on NIA's plans.

During the conference held at a restaurant in Iriga City, COs acted as facilitators while the leader-participants undertook the following tasks. First, they identified and presented their problems concerning the current system operation and maintenance in their zone. Four common problem categories emerged: water distribution, system maintenance, conflict management, and irrigation fee collection (see Upper Lalo monthly documentation report no. 5 for details). Next the leaders proposed solutions to each group of problems. When asked whether they themselves could handle system operation and maintenance once their associations were already strong, the leaders agreed collectively.[43] The chief of the farmers' assistance division afterwards briefly outlined to the leaders NIA's plans regarding the formation of irrigators' associations and the turnover of partial operation and maintenance tasks to these associations. Among the tasks mentioned were the maintenance of canals and facilities within an association's zone and the collection of irrigation fees (a part of which the association would retain

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[43]Discussions during rotational-area meetings point to farmers' desire to decrease irrigation fees and exercise direct supervision over system personnel once their associations undertake partial system operation and maintenance. These may explain why the leaders readily and positively responded to the query.

for its fund and another part to be remitted to NIA). Following the presentation of plans, the leaders were informed of NIA's intention to conduct in each Upper Lalo zone in June a two-day, live-in conference involving zonal leaders. In this regard, the leaders set tentative dates for their respective zonal conferences. They ended the whole-day conference by assessing what they had learned from it.

Immediately upon returning to their own areas, the rotational-area leaders and COs informed the ditch leaders about the results of the conference. Zone I-A RAMC-4 leader even called a meeting (26 May) of ditch leaders for this purpose.

The June conferences intended to draw out the system operation and maintenance problems common to farmers of a zone and the rotational-area and ditch leaders' proposed solution to these problems. Moreover, the conferences aimed to determine the leaders' reactions to NIA plans and to enable the leaders to plan for meetings in their respective areas in order that members may know of and react to these plans.

Two types of activities were undertaken in preparation for the conferences: the election or appointment of leaders who would attend the conference, and the holding of a series of preconference meetings of rotational-area and ditch leaders and COs so that they could work out the necessary details. During these meetings, the leaders (1) reviewed the proceedings of the 26 May conference, (2) set the date of the zonal conference, (3) defined the conference objectives, (4) prepared a program of conference activities with COs providing information on NIA's proposed activities, and (5) assigned leaders and COs to handle specific activities.[44] The leaders

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[44]In one of the Zone I-A preconference meetings, selected leaders who were accompanied by COs met with two institutional development consultants to negotiate for a change in conference venue, from the NIA regional training center in La Trinidad, Iriga City to the NIA field office in San Francisco, Buhi. The leaders' preference for the latter site was prompted by a consideration for proximity. During the negotiation, the advantages and disadvantages of holding the conference in each site were discussed. As a result, the leaders conceded that the NIA training center was a better choice.

were also informed of the transportation, food, and sleeping arrangements made by NIA.[45]

Zones I-A and I-B leaders held their conferences on 21-22 June and 7-9 June, respectively, at the NIA regional training center in La Trinidad, Iriga City. The major activities undertaken in both conferences were as follows. Initially, the leaders stated their conference objectives of which the common ones were to determine the problems besieging their zone, propose corresponding solutions, and determine the requirements for undertaking partial system operation and maintenance responsibilities.

Next, the leaders identified and presented the problems encountered in the zone from 1975 to 1979, their causes, and solutions. In both zones, they classified the problems under four categories: (1) water distribution problems, such as insufficiency or absence of water supply in certain areas of the system; (2) system maintenance problems, such as defective, obstructed, and dirty canals; (3) irrigation fee problems, such as high rates and payments not adjusted to the actual size of farm being irrigated;[46] and (4) conflict management problems, such as lack of cooperation among water users and feuds between farmers and ditchtenders. In addition, Zone I-A leaders cited as problem

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[45]NIA proposed that farmers shoulder part of the expenses. The farmers' responses to this are as follows. In Zone I-A, RAMC-4 leaders agreed to bring rice. (The expense-sharing issue was not discussed by other Zone I-A leaders.) In Zone I-B, the leaders decided against a NIA proposal that each participant give a P20-contribution which would go to their association's initial fund. They argued that a deviation from prior arrangement (that leaders did not have to spend for the conference) would dissuade many from attending the conference. They agreed, however, to discuss the counterpart issue once their formal organization was established.

[46]In answer to farmers' complaints about overcharging of irrigation fees caused by NIA's inaccurate farm-size measurements, in March 1982 the project's survey section began a parcellary mapping or resurvey of farm sizes in all rotational areas of the documentation zones.

NIA's failure to compensate construction laborers in the past. In discussing the causes of the cited problems, Zone I-A leaders identified specific reasons while Zone I-B leaders considered the problems as generally traceable to NIA and the farmers. To solve the problems, Zone I-A leaders viewed as necessary the organization of farmers into associations while Zone I-B leaders perceived seminars as means to increase farmers' awareness and participation.

Following the discussions of problems in the zones, the chief of the farmers' assistance division presented NIA's operation and maintenance plans. He urged the leaders to consider the benefits to them of the plans, for example, having funds (by collecting irrigation fees for NIA and earning a portion of the collections) with which to buy farm inputs at wholesale price, being able to negotiate with other agencies as a legal entity, and having higher rice yields owing to improved farmer-managed system. The head of the irrigators' organization training section subsequently outlined to the leaders NIA's plans regarding farmers' organization while the head of the water management section then presented the water delivery scheme to be implemented in Upper Lalo by mid-1982, after the current rehabilitation works were done.[47] The leaders then grouped by rotational area and planned their respective area's public meetings to inform farmers of NIA's plans and determine if they approved of these. As a final activity, the leaders cited the benefits they received from the conference, like being able to present their problems to NIA and learning tips on leadership and the need for sharing their experiences with fellow leaders and members.

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[47]Under this scheme, irrigation would start from the downstream area, moving to the upstream area. First to be irrigated then would be Zone II-A, followed by Zone I-B, and lastly Zone I-A. Water would flow simultaneously in the main and lateral canals, but would be rotated in the main farm ditches. At the main-farm-ditch level, water would be delivered first to the tail-end area moving up to the upstream area.

After the June conferences, the leaders of Zones I-A and I-B convened their respective planning sessions to finalize the details of rotational-area meetings. During the meetings held in June, the leaders explained the objectives of the meeting, NIA's plans for farmers' organization and system operation and maintenance, and NIA's proposed water delivery scheme. In a majority of the meetings, the leaders also asked their members to bring out the problems they had encountered since 1975. In some instances, the leaders attempted to classify the problems, analyze their causes, and suggest solutions (see Upper Lalo monthly documentation report no. 7 for details).[48]

The August conferences were convened to finalize and consolidate the farmers' operation and maintenance plans for Upper Lalo. The first August conference had the following objectives: (1) to ascertain from the rotational-area and/or ditch leaders whether or not their members approve of NIA's plans, (2) to enable the leaders to draw up a preliminary list of terms for handling partial operation and maintenance tasks in their zone, and (3) to allow the leaders to plan for the first Upper Lalo farmers' convention during which the farmers' terms will be presented formally to NIA. This conference was convened on 10 August at the NIA regional training center. The whole-day activity started with a listing and discussion of the leaders' expectations from the conference. Two major expectations emerged: to draw up plans for the first Upper Lalo farmers' convention and to share with each other the results of their July meetings with members.

Next a leader and a CO presented the farmers' and NIA's objectives for the conference. This was followed by a session during which the leaders, who were grouped by zone, wrote down their members' reactions to NIA's organizational plan, water delivery scheme, and plan to delegate system operation and maintenance tasks to them. The results reported by the leaders showed the following. In Zone I-A,

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[48]For their whole-day meetings, five Zone I-A rotational areas each formed a food committee comprising of the rotational-area and ditch leaders. All committees were functional.

between 60 and 85 percent of members were in favor of the plans; in Zone I-B, almost all members were in favor; and in Zone II-A, all members were in favor (see Table A14). Some of the reasons why a small percentage of members in Zones I-A and I-B were not in favor of the plans were: desire to test a plan's effectiveness prior to its adoption, lack of understanding, apathy, and belief that a plan would place an additional burden on farmers.

After the session, the leaders again grouped by zone and listed their terms for assuming partial system operation and maintenance responsibilities which would be presented in the convention. They were told that once farmers and NIA had agreed on the terms, the associations would be formally registered with SEC and a contract for partial turnover would be signed by both parties. Zone I-A leaders listed four conditions; Zone I-B leaders, five; and Zone II-A leaders, seven. Following the presentation of these terms, the leaders were asked to provide justifications for each. In this regard, they expressed the need to consult their members. The project manager suggested that they review the Lalo River system's past expenditures or consult knowledgeable persons before finalizing their terms.

Finally, the leaders planned for the convention to be held in September 1981. They voted on its date, time, and venue. They agreed that farmers themselves should shoulder transportation and food expenses. They were told that various committees need to be formed for the affair, with NIA shouldering the committees' expenses. It was also agreed that one of the leader and the chief of the farmers' assistance division of the project office would make arrangements to hold the convention at the Buhi Church.

The second conference was convened for the purpose of consolidating the three Upper Lalo zones' lists of terms and justifications for assuming partial operation and maintenance responsibilities which would be presented in the September convention. The conference took place at the NIA field office in San Francisco on 24 August. During this conference, the leaders grouped by zone and listed the terms and justifications for assuming system operation and maintenance tasks. These were then presented to and discussed by the body. A Zone I-A CO consolidated the three zones' lists, resulting in a total of 10 items. (Shortly before the convention, farmer-leaders reviewed the summarized terms and

conditions and reduced the list to 9 items.) During the conference, the leaders also chose two spokesmen per zone who would present the terms and justifications during the convention. Zone I-A leaders made their selection while Zones I-B and II-A deferred it. (Selection was made during their subsequent planning sessions.) Zone I-A leaders planned to disseminate information about the convention by conducting a general assembly; Zone I-B leaders, by individual consultations or groundwork; and Zone II-A leaders, by convening rotational-area meetings. Before adjournment, COs presented the program of activities for the convention and the setup of committees for this affair.

As planned, by late August Zone I-A leaders held a zonal general assembly while Zone I-B leaders convened rotational-area meetings to inform farmers of the arrangements for the convention.

First contract negotiations. Initial negotiations between Upper Lalo farmers and NIA on the farmers' terms for accepting partial system operation and maintenance tasks were planned to take place during the 4 September convention. Preparations for this convention were made in the leaders' conferences and sessions with COs in August. In addition, the leaders formed into seven committees: steering, transportation, uniform and streamers, sound system, food and snacks, registration, and stage and hall preparation. These committees drew their membership from all three Upper Lalo zones; they took charge of various preparations (see Table A15).

The convention was attended by 888 farmers from the three Upper Lalo zones (about 80 percent of the total membership), the project manager, the chief of the farmers' assistance division, 2 institutional development consultants, the Upper and Lower Lalo COs' supervisors, 15 Upper and Lower Lalo COs, other NIA personnel, some guests, and 5 farmer-observers from Lower Lalo. The scheduled program of activities for the convention was followed, except the part where farmer-representatives were to present to the NIA assistant administrator for operations the farmers' terms and justifications, and this official was to respond to the presentation.[49]

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[49]This presentation was postponed because the NIA official's arrival was delayed. The plane he took was unable to land at the Pili airport. Upon his arrival on the following day, a meeting was arranged between him and the Upper Lalo leaders. The Lower Lalo COs' supervisor assisted in gathering the leaders for the meeting.

The presentation of the farmers' terms took place during the 5 September meeting between 67 Upper Lalo leaders (4 from Zone I-A, 23 from Zone I-B, and 40 from Zone II-A) and the NIA official. Their meeting was also attended by the project manager and 12 other NIA project personnel. In this meeting, a previously-selected leader-representative presented to the NIA official the Upper Lalo farmers' terms and justifications. Of the nine terms given (see Table A16), two were accepted by the NIA official; the rest were left out for subsequent negotiations between NIA and the farmers (see discussions on the second contract negotiations).

The results of the meeting were disseminated to farmers in the documentation zones by leaders and COs during their groundwork in September and October and during rotational-area meetings convened in November and December 1981. In January 1982, Zones I-A and I-B leaders were informed that each zone should formulate its own terms. This task was undertaken until February by zonal leaders and members.

In Zone I-A, the zonal officers met on 20 January to discuss, among other matters, the worth of drafting a zone-specific set of terms when they had yet to be informed of NIA's final decision on the first set (Upper Lalo farmers'). Thus after the meeting, the association president inquired about this matter at the project office. When the board of directors met on 26 January, he reported that his inquiries yielded the following information: (1) the Upper Lalo farmers' terms were still being negotiated at the NIA central office, (2) the zonal farmers' terms had to be prepared prior to negotiations for turning over partial system operation and maintenance to the association, and (3) the association should have the zonal list of terms ready for discussion with the NIA assistant administrator for operations during his visit to the area. The board subsequently prepared six conditions and their justifications for the zone.

On 9 and 12 February, the board discussed its terms with the chief of the farmers' assistance division and an institutional development consultant. These sessions led to the deletion of one condition (that NIA shall formally turnover the system to the association) and rewording of another.[50] The board (through its

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[50]The chief of the farmers' assistance division told the Zone I-A association board that formal turnover of a system to an association was currently practiced only in communal irrigation projects and that the association receiving the system was bound to

representatives from different areas of the zone) then presented its list of five terms to members during rotational-area meetings convened in February in Zone I-A. In these meetings, a majority of the members approved the terms (see discussions on second contract negotiations).

In Zone I-B, on the other hand, the board of directors agreed in its 16 January meeting to solicit members' suggestions on conditions for accepting partial operation and maintenance tasks during rotational-area meetings. The rotational-area leaders explained during these meetings that the members' suggestions would be consolidated by all rotational-area leaders and finalized by the board. In early February, the rotational-area leaders relayed to the board a total of 13 suggested terms (the results of their consolidation efforts). On 6 February, the board presented these suggested conditions to the other zonal officers and leaders. The latter delegated to the board the task of finalizing the conditions.

Thus on 19 February, the board discussed and finalized the zone's terms. During their discussions, the board retained or revised (for example, related conditions were combined into one) a term and provided justifications for it. After a whole-day session, 12 terms were finalized.

Second contract negotiations. The second round of negotiations, which was held in March 1982, involved separate meetings between individual zonal associations and NIA. In the documentation zones, these negotiations occurred in a conference involving the association concerned and the NIA assistant administrator for operations. During the conference, the association presented its zonal terms for accepting partial system operation and maintenance responsibilities while the NIA official responded to these terms.

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amortize its cost. This condition, therefore, could not be approved yet by NIA. The institutional development consultant similarly explained why system turnover to an association in a national system was not possible yet. He also suggested that farmers use "exemption" instead of "amnesty" when they request NIA to excuse farmers who had valid reasons for not paying their overdue irrigation fees.

In Zone I-A, the negotiation conference between the Buhi Upper Lalo Farmer-Irrigators' Association, Inc. (BULFIA) and NIA took place on 13 March at the NIA field office in San Francisco, Buhi. BULFIA was represented by the association president; NIA, by the assistant administrator for operations. The whole-day conference was also attended by 85 farmers (around 26 percent of the zone membership), the project manager, the regional irrigation director, 8 other NIA personnel, 4 COs, the Buhi municipal vice-mayor, and the municipal secretary. The association secretary served as master of ceremonies.

During the contract negotiation, five zonal officers took turns in reading the association's terms which could be divided into the following categories: association's duties and obligations, NIA's obligations, and general conditions. To each term presented, the assistant administrator gave his response.

The conditions set by the association regarding its roles and obligations, and the NIA assistant administrator's responses are as follows.

1. The association will manage water distribution in the rotational areas covered by Zone I-A from the main or lateral canals down to the farm and drainage ditches.

   NIA's response: Approved.

2. The association will assume the maintenance of terminal facilities within the zone, including cleaning the main and lateral canals and farm ditches to remove weeds and dirt that obstruct the normal flow of water.

   NIA's response: Approved.

3. The association will repair damages, not extending beyond 3 meters, to the main and lateral canals. It will also repair damages to minor structures along the canals and ditches.

   NIA's response: The extent of damages to be repaired by the association will depend on the amount of its share in the service fee collections which will determine the association's financial capability to shoulder repair costs. NIA and the association will define the sharing of repair responsibilities in future negotiations.

4. The association shall collect the past-due accounts from farmers who have no valid reason for not paying their overdue fees. For this, the association will receive 15 percent of the collections. NIA, however, shall not impose fines or penalties on delinquent accounts. Moreover, NIA shall exempt farmers who have valid reasons for not paying their overdue irrigation fees.

   NIA's response: NIA agrees to pay the association a commission on its overdue-account collections. The proposed 15-percent commission and the removal of fines and penalties will have to be referred to NIA's board of directors. At present, NIA only allows a 5-percent commission. On the exemption being sought for some overdue accounts, the assistant administrator stated that NIA and the association must draw the criteria governing fee exemptions.

5. The association will resolve conflicts which may arise in the course of system operations (for example, water distribution, collection of irrigation fees, maintenance of facilities) and those which are internal to the association.

   NIA's response: Approved.

6. The amount which the association shall pay to NIA as irrigation fees shall remain fixed. This amount shall be remitted to NIA annually by the association.

   NIA's response: This would be allowed only if the system were fully turned over to the association.

7. The association shall pay NIA one cavan of palay per hectare per year: one-half cavan of palay each in the dry and the wet season.

   NIA's response: There is a government regulation governing irrigation fees which NIA cannot bypass. If the association were to amortize the system-construction cost (as communal irrigators' associations are doing), the minimum fee per hectare per year has been established at 1.5 cavans. The association's proposed 1-cavan irrigation fee cannot be considered by NIA. Moreover, if the association desires to pay only 1.5 cavans per hectare per year, then the association will have to decide whether it wants complete system turnover or partial system management responsibilities.

8. The association will handle the operation and maintenance of system facilities within the zone.

   NIA's response: Some positions handled by NIA personnel (for example, irrigation superintendent, cashier, technical staff) are beyond the capability of farmers to assume at present. However, functions which can be handled by farmers shall be assigned to them.

9. Farmers who have donated rights of way for the construction of main and lateral canals, farm ditches, and access roads shall pay only half of the irrigation fee requirements.

   NIA's response: NIA cannot agree to this condition. NIA will only pay affected farmers who hold Torrens Title to their lands and the payment will depend on the Provincial Appraisal Committee's assessment of ROW damages to the lands. NIA cannot make ROW compensation to farmers with free-patent land titles because the Bureau of Land stipulates that farmers with free-patent titled land cannot be paid for rights of way.[51]

Zone I-A association also presented the following conditions concerning NIA's roles and obligations.

1. NIA will assume the repair of more than 3-meter long damages to the main and lateral canals and to those on major system structures.

   NIA's response: The extent of damages to be repaired by the association will depend on the experience which the association will gain during the joint system operation period.

2. NIA will provide technical assistance to the association.

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[51]The Buhi municipal secretary, who was present during the conference, clarified the issue of free-patent land titles. He said that such title only gives a farmer the right to "possess" but not to "own" the land. Free-patent titled lands are "given freely" by the government; thus, if these lands were to be improved by the government, the "possessor" of the land has no right to ask for compensation. Moreover, free-patent titled lands are still deemed to be government property.

NIA's response: NIA acknowledges that the association needs technical assistance. NIA will therefore extend the required technical support to the farmers.

3. NIA shall provide Zone I-A with sufficient water (to be distributed or allocated) from the dam to the zone's main and lateral canals.

   NIA's response: Approved.

4. NIA will assist or support the association in resolving conflicts which may arise during system operation and maintenance.

   NIA's response: Approved.

5. NIA reserves the right to ask reports from the association concerning system operation and maintenance.

   NIA's response: Approved. NIA has the authority to review the association's records, particularly its financial records, to prevent malversation of funds and to ensure the association's financial stability.

The association also gave the following general terms.

1. The association shall be given a two-month grace period after harvest (closest to the agreed date of remittance) to remit the irrigation fee collections to NIA's collector.

   NIA's response: This condition can only be stipulated by the association if it decides to opt for complete turnover of the system. At present, NIA has policies specifying collection months.

2. The association shall ensure satisfactory operation and maintenance of terminal facilities.

   NIA's response: Approved

3. The association shall immediately inform NIA of major damages suffered by the main and lateral canals and system structures.

   NIA's response: Approved.

4. The association shall inform NIA about nonfunctional structures and steel gates.

NIA's response: Approved.

An open forum followed the presentation and discussion of terms. During this part of the program, the assistant administrator gave the following explanations on the difference between turnover and delegation of the system to the association. Complete system turnover implies that NIA will phase out all its system personnel and will hand over to the association all operation and maintenance responsibilities. This turnover, however, will only be possible if the three zonal associations in the Lalo River system are federated. On the other hand, delegation of system operations denotes that NIA and the association will jointly manage the system and with each one preparing its own operations budget. Under this joint management, the excess of fee collections over operational expenditures will be divided equally between NIA and the association. If collections fall short of expenditures, the deficit will be charged against the following year's budget. During the joint-management period, NIA and the association need to agree on the number of system personnel to be employed by NIA and by the association.

In Zone I-B, the negotiation conference between the Upper Lalo River Irrigators' Beneficiary Association, Inc. (ULRIBA) and NIA took place on 12 March at the San Isidro Chapel in San Isidro, Buhi. It was attended by 155 farmers (about 54 percent of the zone membership). The NIA officials who came to the conference included the assistant administrator for operations, the regional irrigation director, and the project manager. The activity lasted four hours. The association secretary acted as master of ceremonies.

In this conference, the association president presented the association's 12 terms for accepting partial system operation and maintenance tasks along with their corresponding justifications. The association's terms and the assistant administrator's responses are as follows.

1. The association will manage the allocation of water to the rotational areas starting from the main or lateral canals of the zone. It will also be responsible for distributing water from the turnout down to the farm ditches. The association will adopt the water distribution scheme which is currently being implemented in the zone. The main canal must have a continuous flow of water, but

water will be provided to the rotational areas on a rotation basis to ensure that each area gets sufficient water supply.

NIA's response: Approved.

2. The association will maintain the cleanliness of the main and lateral canals, and will remove obstructions (such as weeds or dirt) to the flow of water. For this task, NIA must give the association a grasscutter.

NIA's response: Approved except for the association's request for a grasscutter. The assistant administrator said that NIA's experience revealed that grasscutters were not efficient for cleaning canals. They could also be dangerous when canals are deep and a grasscutter could not be positioned correctly. Grasscutters, he continued, can be used on access roads but not on canals. Moreover, grasscutters consume fuel which has become very costly and the use of fuel-using equipment contradicts the government's energy conservation program.

3. Repairs of main or lateral canals, supplementary and internal farm ditches, and minor structures will be assumed by the association as long as the cost of repairs will not exceed 5 percent of the association's share in the irrigation fee collections. Otherwise, NIA will assume the repair of the canals and/or structures.[52]

NIA's response: The association should decide whether it prefers total system turnover (as in communal projects) over partial system management. The association will assume repairs of minor and major structures only if it decides in favor of total turnover of the system to the association.

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[52]The board contended that the association still did not have sufficient funds to assume major repairs of system facilities. The association, however, would immediately report to NIA major destructions on main and lateral canals and canal structures as well as nonfunctional structures.

4. The association will only handle the collection of irrigation service fees due within the period of its management. NIA will handle the collection of past-due accounts prior to the partial turnover of system operation and maintenance.[53]

   NIA's response: Approved. As regards collection of past-due accounts, the assistant administrator encouraged the association to collect overdue accounts whenever it can and NIA will give the association a share in the collections.

5. The association will give NIA 1.5 cavans of palay per hectare per year as irrigation service fee.[54] The association treasurer will remit the irrigation fee collections once a year (that is, 20 days before the end of each year).[55] In times of calamities, affected farmers will be exempted from paying irrigation fees to the association. In turn, the association will proportionately reduce its remittance to NIA.

   NIA's response: The association will have to decide whether it wants total or partial system turnover. The 3.5:1.5 sharing ratio can only be accepted if the association desires to pay NIA the system construction

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[53]The board argued that the association should not be held responsible for unpaid accounts due before the formation of the association. The board also pointed out that many farmers had complaints about poor service from NIA. Moreover, many of the farmers with overdue accounts had no canals or ditches leading to their farm; a number of them constructed farm ditches without receiving payment from NIA.

[54]The board claimed that the association could afford to pay only 1.5 cavans per hectare per year because it would have to pay the association's watermasters, ditchtenders, and other operation and maintenance personnel.

[55]The board justified this term by arguing that farmers usually paid their irrigation fees only after the harvest of their second palay crop.

cost within a period of 50 years and this implies complete system turnover as in communal projects. The assistant administrator also objected to the suggested yearly remittance of irrigation fees. He proposed that fees be collected after every harvest to avoid accumulation of debts and problems of handling collections for a long period. In connection with fee payments in times of calamities, he agreed to defer the collection of fees until the next harvest. Thus fee obligations incurred during the period of calamity will not be dropped; they will be assumed as an additional obligation for the following crop season.

6. Expenses related to training sessions or seminars for leaders which will be given before the association contracts partial system operation and maintenance shall be shouldered by NIA.[56]

   NIA's response: Approved.

7. If possible, NIA should extend financial assistance to the association during its initial operations and until the association has built enough capital from irrigation fee collections. Otherwise, NIA should help the association generate funds or capital. NIA should also provide the association technical assistance in the operation and maintenance of the system.

   NIA's response: Approved.

8. NIA shall provide the association with a service vehicle which will be used during canal inspections, fee collections, and the like.

   NIA's response: Approved. NIA can help the association find means to secure their requested service vehicle.

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[56]The board explained that the association would not have any capital when NIA conducts these training sessions or seminars.

9. NIA shall complete the following construction works prior to the association's partial system operation and maintenance: (a) remaining terminal facilities and system structures, (b) lining of lateral canals in RALAT-B, RALAT-E-1, and RALAT-E-2, and (c) association's office.

   NIA's response: Approved.

10. The association will resolve conflicts that may arise among its members due to water distribution or allocation, management of the association, and other internal conflicts.

    NIA's response: Approved.

11. The officers of the association can ask NIA to assist in the resolution of major problems.

    NIA's response: Approved.

12. NIA shall refund farmers of excess payment resulting from previous inaccurate measurement of farm sizes if such inaccuracies would be proven by the resurvey being conducted by the project office.

    NIA's response: Excess payments made by farmers as a result of inaccurate measurement of their farm lots will not be refunded by NIA. Instead, these excess payments will be deducted from the farmers' future fee payments. Farmers who had underpaid because their farm size had been underreported will not be asked to make additional payments to NIA. Farmers' underpayment, the assistant administrator said, was not the farmers' fault but NIA's.

A Summary of Project Activities

The January 1981 to March 1982 documentation research in Upper Lalo covered two complete project stages--preconstruction and construction--and the preparations for implementing system operation and maintenance. In each of these stages, activities may be classified into organizing and technical tasks. Organizing activities began with COs' integration with the communities in their assigned zones. Organizing efforts had two general objectives: to mobilize farmers for participation in technical activities, and

to organize farmers from the rotational-area level until formation of farmers in a zone into irrigators' associations.

The key technical tasks which involved farmers were as follows: reviewing the designs and locating terminal facilities (January through December 1981); securing rights of way for the TS-farmer agreed ditch routes (February 1981 until February 1982); surveying and staking out of ditch lines (February through December 1981); constructing terminal facilities, with farmers participating either as hired laborers under takay arrangement (March through September 1981 for ditch construction) or as contractors of works under pacquiao (October 1981 through February 1982).

As documentation research activities ended in March 1982, zonal irrigators' associations, which were organized in December 1981, were preparing for system operation and maintenance. Their initial negotiation efforts with NIA during the month served as the farmers' first test as an irrigators' association and constituted a step closer to directly involving farmers in the management of their irrigation system.

III. PROJECT ACTIVITIES IN LOWER LALO

This chapter discusses the activities which took place between late November 1980 and March 1982 in the documentation zones (III-B and IV-A) in the Lower Lalo area. During this period, the community organizers made their entry into the area, began organizing irrigators' associations, and helped farmers participate in determining the layout of the irrigation canals to be constructed. The technical staff conducted topographical surveys and, in coordination with farmers, prepared the layout of the canals and the design of the structures to be built.

Preconstruction Organizing Activities

Community organizers arrived at the project area in November 1980. Their initial goal was to become acquainted with the people in the area. Gradually they identified the potential leaders who could help in developing strong irrigators' associations. One or two COs were assigned to cover a zone. They did not, however, immediately form an organization at the zone level. Rather, they started with much smaller groups of farmers, developed a high ratio of leaders to farmers, and gradually attempted to integrate these smaller groups into a zonal association. The first problem COs encountered in following this strategy was defining the boundaries of the smaller groups. Once the irrigation system was developed, it was expected that these groups would be comprised of farmers whose farms fell within a particular rotational area, or those who received their water from a particular turnout on a main canal or a lateral. But because the plans for the boundaries of these rotational areas had not been made yet, COs grouped farmers arbitrarily using various procedures.

Zone III-B CO clustered farmers according to the location of their fields vis-a-vis the existing (but nonfunctional) lateral canal. These farmers' groups were known as "subgroups." In Zone IV-A, COs initially grouped farmers according to the sitio where they resided.[57] COs discovered later that some ricelands in the

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[57]Sitio are small settlements within a barangay, the country's basic political-administrative units. A sitio in the documentation zones generally consists of 30 to 45 households.

sitio were tilled by farmers who resided outside the sitio while a number of its residents farmed in other sitios. Moreover, they realized that farmers were more likely to participate in determining the canal layout which would affect their farms. Consequently, COs redefined their sitio groups to consist of cultivators of farms found in the sitio.

When the project office released the paper location of canals for Zones III-B and IV-A in late March 1981, COs began to reclassify farmers according to the location of their fields with respect to a proposed turnout. Because a turnout was designed to serve a specific rotational area, farmers were then grouped by rotational areas. These units became the basis of COs' subsequent organizing work.

Integrating with the communities

Upon their deployment to a zone, COs began to perform the following tasks: (1) calling on barangay officials and other recognized community leaders, and inviting them to serve as COs' "contact persons" in the area, (2) conducting house-to-house visits, and (3) attending village social functions (such as baptismal parties, weddings, wakes, and anniversaries) to which they were invited.

COs performed their initial tasks with the objective of (1) establishing rapport with the residents of the area, (2) familiarizing themselves with the local situation, and (3) drawing up a list of potential water users. During their visits with farmers, COs discussed the NIA project and the problems in the community. They focused on these topics during their initial home visits because at that time farmers were generally skeptical toward government projects and were unfamiliar with community organizing work.[58]

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[58]At the time COs began organizing work in the documentation zones, a number of farmers had been disillusioned over past NIA development efforts. They pointed out that canals constructed by NIA in mid-1970 had reduced their farm sizes but had failed to deliver water to their farms. As regards COs' presence in the area, COs were oftentimes mistaken as either social workers or engineers.

After about two or three weeks of integrating with the community, COs embarked on post-integration tasks which included: (1) getting better acquainted with the farmers, (2) establishing the boundaries of the farmers' grouping, (3) determining the farmers who tilled land within the identified boundaries, (4) searching for possible farmer-leaders, and (5) preparing for the first assembly of potential water users in a particular section of a zone.

Conducting groundwork with farmers

During their stay in the area, COs continuously engaged in groundwork activities. These initially involved home visits to farmers during which COs provided information on the project and emphasized farmers' participation in activities which would be undertaken soon in their area. Farmers, in turn, asked questions about the project and COs' activities; they articulated their ideas, opinions, and sentiments about the project and NIA (for a detailed description of these exchanges, see Illo and Felix 1981: 30-31). In subsequent months, COs continued to visit farmers in their homes. They also sought out farmers in the fields and in places where farmers usually congregate, as in sari-sari (variety) stores, palitada (palay-drying area), rice mills, and road junctions. Through informal conversations with one or several farmers, COs tried to raise issues about what needed to be done in the locality and encouraged farmers to take action. COs persisted until farmers realized that the NIA project addressed their concerns and that an initial action toward resolving their problems would be to convene a meeting so that they could plan and decide on how to resolve these through their participation in the project.

The package of information which COs shared with farmers during their groundwork varied depending on the period when COs undertook groundwork activities in an area. The following description of COs' groundwork reveals the type of information imparted during the activity.

> Before April 1981. Until the end of March 1981, COs focused on disseminating general project information which included the total area coverage of the proposed Lower Lalo system and its water sources. COs also explained that farmers were expected to participate in the design, construction, and operation and maintenance of the system. Moreover, they emphasized that the COs' role in the project

was to prepare farmers for participation in project activities and in organizing themselves into irrigators' associations. Whenever farmers asked questions pertaining to location of canals, right of way, and construction arrangements, COs encouraged them to raise these matters during the farmers' meeting with TS.

After March 1981. With the availability of the TS' paper location of canal lines, COs expanded the scope of their groundwork by eliciting farmers' reactions to the proposed canal lines. COs exhorted the farmers to organize themselves into working committees and to start preparing their suggested location of canal and ditch lines. When construction surveys were started in the area, COs urged farmers to convene a meeting as soon as possible so that they could plan their participation in the activities.

Generally, COs found the farmers receptive to the participatory approach which NIA was employing in the development of the Lower Lalo system. At the same time, however, some farmers initially balked at the proposal that they undertake tasks (like preparing their area's spot map and paper location of the canal and ditch lines to be constructed in their area) which they believed were TS' job and/or would be better left for TS to do. Further explanations by COs and leaders convinced these reluctant farmers that when they prepare their own sketch of their suggested location of canals and ditches, they would be better equipped to negotiate with TS regarding the canals and ditches which would be constructed in their area.

During the early months of COs' work, some farmers also rejected COs' organizational efforts and demanded that water be delivered to their farms first. However, when COs said that NIA would not construct the system unless the farmers become organized, these farmers indicated, albeit with reluctance, that they would join the proposed irrigators' association. Likewise, some of the farmers whom COs approached to assume leadership in their area declined the responsibility; they wished to remain followers and to leave the management tasks to their traditional leaders (such as barangay officials). And while a few were convinced to serve as temporary farmer-leaders, a majority of those who declined stood their ground and requested COs to consider those who had previously assumed leadership positions in their community. Although COs continued to be faced with this problem in subsequent months, they also were able to draw more farmers to take on leadership roles.

By the time COs were working in three or four areas, farmer-leaders in the areas which they earlier covered gradually assumed the task of mobilizing farmers to participate in ongoing project activities.

Preparing and validating farmers' lists

Upon their entry in an area, COs acquired an initial list of farmers from barangay officials or other farmer-leaders. They then expanded this list by integrating data from the Bureau of Lands' parcellary map of the area. While doing the rounds of the rotational area, COs also began compiling their list of potential water users which they checked against the available farmers' lists. Beginning April 1981, the preparation of the list of potential water users was facilitated by the availability of the TS' paper location of canal lines. The preliminary canal layout helped COs establish the boundaries of rotational areas; it also guided them in drawing up a list of farmers whose lands would be served by a common turnout.

As the lists of farmers were drawn up, COs and farmer-leaders also sought to confirm these. Their goal was to have a list of farmers who were expected to benefit from a common turnout and who could, therefore, be encouraged to participate in the design of the rotational area's canal layout and in the construction of canals and terminal facilities. Moreover, the validated rotational-area farmers' lists would provide the bases for the initial membership list of the prospective zonal irrigators' associations.

Until March 1981, COs prepared and validated the farmers' list themselves because no farmer-leaders had been sufficiently mobilized by COs for these tasks. The validation of the lists took place during COs' home visits. During their meeting with the farmer and/or his spouse, COs elicited the following information: (1) whether the person listed was a resident of the zone, (2) size of his farm (owned and/or cultivated) within the zone, (3) his tenure status, and (4) names of farmers tilling the fields adjacent to his farm.

Beginning April 1981, farmer-leaders became committed enough to assist COs in the preparation and validation of farmers' lists. The leaders' involvement in these tasks, however, varied in degree. Between April and June 1981, Zone IV-A COs validated the list for

one rotational area while they were conducting home visits; the leaders, particularly those preparing the spot map, provided COs with requested information (such as present cultivators of certain farm lots, tenure status of some rice cultivators, and whether or not a certain person tilled a farm in the rotational area). In another rotational area, leaders actively helped COs validate the list for their area by personally checking the information contained in COs' initial list with farmers whom they interviewed during their spot-map preparation.

From July 1981 onwards, farmer-leaders in almost all rotational areas of the documentation zones undertook the validation of farmers' lists during their walk-through and preparation of the area's spot map. These leaders checked the initial list with the names of cultivators of farm lots which were included in the spot map. In at least three areas, leaders revalidated the lists for any of the following reasons: the original spot map (on which the validated list was based) reflected only the farms cultivated by farmers who were residing in the rotational area, thus leaving out those tilled by people who lived outside the area; some farmers who were tilling several parcels within the area were listed more than once; and/or a section was added to the original area coverage.[59]

Validating farmers' lists progressed at varying paces in different areas (see Table A17). Between April and July 1981, only one or two lists were fully validated. In August (in Zone III-B) or September (in Zone IV-A), at least five lists had been confirmed, after which one or two lists were validated every month. By end of March 1982, 10 of the 13 Zone III-B areas and 10 of the 11 Zone IV-A areas had completed the validation of farmers' lists.[60] In almost all areas, the number of farmers indicated in the validated

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[59]For instance, when RALAT-K-3 farmer-leaders revalidated the farmers' list in December 1981, the final list contained 60 farmers, or 10 names less than the earlier list. In another area (RALAT-L-8), about 34 names were added after the farmer-leaders included cultivators who had farms in the area but who lived outside the rotational area.

[60]In some areas, COs could not readily draw up a preliminary list of farmers because the tillers of the lands in the area resided in a different village or town which was far from the rotational area. For RALAT-L-4, for instance, Zone IV-A CO-1 postponed this activity and further organizing work (which were

lists differed from that in the original lists (see Table A18). In a number of cases, the validation process brought about the identification of farmers whose ricelands were in the area but who lived in a different rotational area, barangay, or municipality. Names of these farmers had been inadvertently omitted by the residents of an area when they provided the initial list of farmers.

As of end of March 1982, two COs together covered a zone of more than 300 hectares, with 11 to 13 rotational areas each covering about 26 hectares. After more than a year of list preparation and validation, COs listed about 40 and 53 farmers per rotational area in Zones III-B and IV-A, respectively (see Table 7).

Identifying farmer-leaders

At the outset of their work in the area, COs strove to identify farmer-leaders who were willing to invest time and effort in organizing farmers, and in mobilizing other farmers for project activities. Because COs did not know who the leaders would be, they made initial contact with incumbent barangay and other local leaders. As COs became familiar with the people of the area, they identified additional potential leaders whom they then encouraged to take on certain tasks. COs constantly assessed these contact leaders' acceptability to other farmers and their ability to take on responsibility. COs hoped that as their leadership capability gradually developed, the farmer-leaders would be able to assume more and more responsibility for planning activities, calling and holding meetings, and getting farmers to participate in project activities.

Selecting initial contacts and potential leaders. During COs' first visit with barangay officials residing in the area, they invariably asked the officials to serve as their initial contacts. COs also invited other residents associated with barangay projects or organizations to serve as their contact persons in the area. Thus between January 1981 and March 1981, at least 7 of the 30 initial contact persons of COs in Zones III-B and IV-A

started in September) for October at which time a majority of farmers were in their fields for the harvest of their crop. In small-sized areas (like RALAT-K-SP-2), a final list of farmers was easily prepared.

Table 7. Selected information on Lower Lalo documentation zones: 31 March 1982

Item	Zone III-B	Zone IV-A
Total size of the zone (in ha.)	321	302
Estimated number of farmers in the zone[a]	459	533
Number of rotational areas	13	11
Average size of rotational areas (in ha.)	25	27
Average number of farmers in a rotational area	40	53
Number of COs assigned to the zone	2	2

[a]The estimate refers to the number of farmers based on the validated farmers' lists for the zone as of end of March 1982. It does not include one rotational area which had no farmers' list as of end of March 1982.

were barangay officials; the remaining 25 were chosen by COs on the bases of their articulateness and/or other farmers' recommendations (see Illo and Felix 1981:36-38).[61]

After the release of TS' preliminary paper location of canals in April 1981 and the subsequent restructuring of Lower Lalo zones in July 1981 and February 1982, COs began organizing two types of areas: those which had not yet been organized, and those which had been organized previously but had to be reorganized to fit the paper location of canals. In areas of the first type, the COs' initial contacts were individuals who were referred by other COs or those whom COs found to be in frequent contact with other farmers. A majority of these initial contacts were not barangay officials but they were generally recognized to be more economically

[61]In Zone IV-A, at least four of the COs' first contacts were barangay officials. One was a sitio leader for the barangay nutrition program, another was a barangay tanod (guard), while the other two were a secretary and a member of the barangay council. In Zone III-B, at least three of the COs' initial contacts were also barangay officials.

stable than most farmers. In areas to be reorganized, COs tapped the most interested and the most active of the leaders earlier selected by COs and/or farmers.

In the course of their organizing work in an area, COs continuously evaluated the potential leaders whom they and/or the farmers had identified. They interviewed other farmers about the leadership potentials of those considered as probable farmer-leaders. Moreover, COs conducted a series of follow-up meetings with each contact leader so that they could further assess this person's leadership abilities. During these sessions, COs discussed with the potential leaders the NIA project and farmers' involvement in it. COs encouraged them to help with such activities as listing and validating farmers of the area, and discussing the project with other farmers. Subsequently, COs evaluated the potential leaders' participation in groundwork and mobilization activities. COs then focused on the most active individuals and encouraged them to plan for an initial farmers' meeting, to invite other farmers to the session, and to conduct the meeting.

Identifying functional leaders. The agenda of the first farmers' meeting in a rotational area generally included explanations of the key activities to be undertaken in the near future and organizing committees to perform them. The most common committees created in the documentation zones were those on membership, spot map, and right of way.[62] Two other committees which were organized in about half of the areas in Zones III-B and IV-A were for survey and walk-through (for details, see Table A19).

COs and their contact leaders presented the committees' functions, as follows: membership, to validate the farmers' list for the area (and, in some cases, to conduct notification campaigns for farmers' meetings); spot map, to prepare a rough sketch of the

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[62]Two areas created only the membership and ROW committees because the area's spot map had either been previously prepared (as in RAMC-19) or could be derived from the map of the area where it used to be part of (RALAT-K-SP-4). RAMC-19 farmers also formed a special committee which was assigned the job of preparing a letter requesting for a TS-farmer conference on the paper location of canals of the area. In another area (RALAT-L-SP-2), no membership committee was formed.

area which would show farm lots, coconut and crop lands, and landmarks, and to indicate on the map the location of the farmers' proposed canal and ditch lines; ROW, to negotiate ROW with landowners affected by a proposed service or access road, canal, or ditch; survey, to accompany the TS during their survey of the area; and walk-through, to delineate the boundaries of the rotational area. (The walk-through committee eventually joined the spot-map committee during onsite identification of proposed canal and ditch lines.)

The initial meeting also involved election of an overall chairman (and, in some areas, a vice-chairman) and a secretary for the area, a chairman for each committee, and members for the committees. (At the start, all but the area secretary were considered as leaders. But later, the secretaries were tapped for leadership functions.) The farmer-attendees were asked to nominate their candidates for the leadership posts. In almost all areas, they had only one nominee for each of the leadership positions.

However, not all nominees welcomed their selection. In fact, in at least a third of the rotational areas which had organized their committees, a majority of those nominated initially declined their nominations. Their reluctance to occupy leadership positions appeared to stem from their perceived inability to discharge the duties of the positions. The reasons most often mentioned by farmers who objected to their nomination were as follows: (1) preoccupation with nonfarm work which often took them away from the area, (2) involvement in other rotational areas, (3) old age, (4) feeling that "women are not as capable as men" (in cases when women were nominated), and (5) preferences either for remaining as ordinary members or for occupying minor positions. COs and farmers succeeded in convincing four of every five reluctant nominees.[63] A few, however, were adamant in their refusal;

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[63]These nominees allowed themselves to be persuaded when COs and/or farmers argued that project activities which would require their participation would only occur occasionally, other leaders who occupied leadership positions in more than one rotational area proved to be effective in their multiple involvement, or those who were previously saddled with responsibilities could serve as committee members at least. In the case of female nominees who were apprehensive of assuming leadership roles, farmers cajoled them and contended that they had the female COs as immediate role models.

they insisted that they had very little time to devote to project activities or that more able farmer-members should be named in their place. Farmers had to accept these nominees' objections and proceeded to suggest replacements. Consequently, most, if not all, of the elected farmer-leaders indicated interest in their roles; those lacking in time or interest weeded themselves out.[64]

The lone nominees to the positions of overall area chairman (and, in some areas, vice-chairman) and area secretary were immediately voted to their positions by the assembly.[65] This took place in 18 of the 23 areas where election of leaders occurred. Meanwhile, areas differed in the process of forming the committees. In 15 of the 23 rotational areas which had formed their committees, both chairmen and members were nominated and acclaimed by the assembly. In six other areas, committee chairmen were elected directly by the farmers and the chairmen-elect were instructed to choose their respective members; in the two remaining areas, farmers appointed their peers to the committees.[66] On the whole, between two and five farmers were named to the committees. The membership committee had generally fewer members than the rest, the farmers' consensus being that more people were needed in activities like spot-map preparation, walk-through, and survey.

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[64]In at least two rotational areas (RAMC-18 and RALAT-K-SP-1), farmers who were absent during the organizational meeting were named to some of the committees. Thus, any objection which they might have had to their nomination was never considered.

[65]The elected overall chairmen were all male. In most areas, farmer-members assumed that the overall chairman should be male. When the issue of having female overall chairman was raised in two areas, one group (RAMC-SP-4) was dominated by farmers who contended that the rigorous job called for a male leader although the presiding officer (a male) thought that the position should be opened to men and women. In another area (RALAT-K-SP-1), the farmer-members tried to convince an articulate female member to become overall chairman; she declined because she felt she was too old (over 60 years old) to function effectively as the group's leader. In contrast, of the 18 secretaries (10 in Zone III-B and 8 in IV-A) elected by end of March, 7 (3 and 4 in Zones III-B and IV-A, respectively) were women.

[66]Because of the small size of one area (RALAT-L-SP-1; about 9 hectares), farmers chose only the heads of the committees and agreed to help the latter in their assigned jobs.

Because most contact leaders were active in preparing for the first farmers' meeting in their area, farmers generally felt that they deserved to be formally elected as farmer-leaders. Thus, the contact leader who chaired the initial meeting was always elected as the overall chairman while the other two to four individuals whom the CO had asked to help organize the first meeting were elected as committee chairmen. Their election to these positions confirmed their status as farmer-leaders of the area.

All elected farmer-leaders were continuously evaluated by COs so that they could segregate those leaders who had potentials from those who had none. In this connection, COs carefully noted the leaders' participation in project activities. They subsequently worked intensively with the most active leaders and disregarded the least active ones. In some cases, a leader might indicate his desire to leave his post after he had found himself unable to discharge his duties. Dropping a farmer from the roster of leaders was not formally announced whether this stemmed from CO's evaluation or the person's own wish.[67] The only instance when a potential leader was dropped formally was when his farm ceased to fall within the area coverage as a result of the creation of a new rotational area (such as RAMC-SP-5-A and RALAT-K-SP-4) out of a section of the leader's original rotational area.

Although no formal dropping of an inactive leader took place, COs usually steered away from such leader and focused their mobilization efforts on the more active leaders. In two rotational areas where the overall chairmen had become inactive, COs sought the assistance of the area secretary (in RALAT-K-5) or another leader (the chairman of the ROW committee in RALAT-L-SP-1) in coordinating farmers' participation in project activities. Moreover, farmer-leaders themselves usually assumed the functions of their peers who had displayed disinterest in their job. In a number of rotational areas, the overall chairman coordinated the spot-mapping activity; in at least one area (RALAT-L-SP-1), the committee vice-chairman took charge of the committee's tasks when the chairman refused to perform his duty.[68]

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[67]This practice departed from that observed before March 1981 or before farmers' committees were organized. At that time, COs formally dropped some of their contact leaders.

[68]The committee chairman initially refused to accept the position because he doubted his ability to undertake spot mapping; he was eventually persuaded by his peers to assume the post.

By end of March 1982, the documentation zones had a total of 255 farmer-leaders, or one leader for every four members (see Table 8). These leaders were distributed as follows: area chairmen, 20; assistant (or vice) chairmen, 7; committee chairmen, 71; committee members, 146; and contact leaders, 11. (The contact leaders were those identified in areas which had not formed farmers' committees as of the end of the documentation period.)

Of the identified farmer-leaders, at least 8 of every 10 were male. The few female leaders served either as rotational-area secretaries or as committee chairmen (either of the membership or the right-of-way committee) or members. All the overall chairmen, however, were male.[69] The average farmer-leader was about 53 years old, with the women slightly younger than the men. Most had either completed the six-year elementary education or had received some secondary school training.[70] At least 63 percent of the identified leaders cultivated their own riceland, the average size of which was 1.6 hectares. Another 20 percent were tilling parcels under share tenancy in addition to cultivating their own land; the average size of the farm operated by this group was about 2.0 hectares. And yet another 17 percent considered themselves as share tenants; they cultivated several parcels which summed up to about 1.6 hectares on the average. The majority of the elected leaders--both male and female--had held a leadership position in a community organization (that is, barangay council, Parent-Teachers' Association, and other community-wide groups); a few were serving concurrently in other community organizations.

When the committee started to function, he reportedly told the area chairman that farm work had prevented him from participating in the spot-map preparation. However, the spot-map committee chairman later confided to the participant-observer that he was not interested in spot mapping partly because he was uncertain that his farm would be served by the proposed system.

[69] In one rotational area, women were encouraged to assume the position of overall chairman. Male farmers argued that the women could take the female COs as role models insofar as taking leadership positions are concerned. The women, however, declined; the most favored female candidate begged off saying that she was too old for the job.

[70] The average female farmer-leader had at least some high school education.

Table 8. Selected information on farmers' participation in meetings convened in the Lower Lalo documentation zones: April 1981 to March 1982[a]

Item	Zone III-B	Zone IV-A
Total number of farmers (as of 31 March 1982)	459	533
Number of farmers occupying leadership positions (as of 31 March 1982)	124	131
Total number of meetings convened in the zone	34	23
Average number of farmers present during a meeting in a rotational area	21	18
Average percent of farmers in the area attending convened meetings	41	33
Average percent of farmer-attendees participating during discussions	48	52

[a]The figures presented in this table were based on data contained in Tables A18, A20, A23, and A24.

Convening farmers' meetings

After COs and leaders had discussed with individual farmers or a group of farmers certain issues or project activities, they usually proceeded to prepare for a meeting of the farmers of the area. To COs, public meetings served to generate or enhance awareness and consensus among large numbers of farmers about activities to be pursued in the area, to develop leadership skills among farmers, and to promote wider participation of leaders and members in project activities. Moreover, because meetings usually ended with an action-reflection session, farmers would be able to experience analyzing situations and drawing lessons or required action from just-concluded activities.

COs generally urged leaders to engage in planning the agenda for the meeting, inviting other farmers to attend the assembly, and conducting the meeting. In the planning session which preceded all meetings, leaders learned to map out strategies for ensuring good attendance during a meeting and to divide the work (that is, presentation and discussion of topics or issues) among themselves.

Thus through meetings, COs aimed to develop leadership capability of the farmers in an area.

Between April 1981 and March 1982, 53 meetings were scheduled to be held in Zone III-B and 43 in Zone IV-A (see Table A21 for details). Of these scheduled meetings, about 64 and 53 percent were convened in Zones III-B and IV-A, respectively. On the average, therefore, a CO had about two to three meetings a month.

During the documentation research period, three types of general farmers' meetings were convened: initial or organizational meetings, follow-up meetings to discuss results of activities and to plan for forthcoming project activities, and conferences between farmers and TS.

Preparing for farmers' meetings. Three activities usually preceded any farmers' meeting. First, COs conducted groundwork with at least the leaders on forthcoming project activities and on how farmers could be drawn to participate in them. The groundwork activity normally took the form of a series of informal conversations where COs elicited the leaders' opinion on project-related matters under discussion. At some point during these conversations, leaders proposed convening a farmers' meeting. Subsequently, COs and the leaders agreed to plan for the meeting.

Second, leaders held planning sessions to schedule the farmers' meeting, to discuss the strategy for notifying their fellow farmers about the meeting, and to decide on the meeting's agenda.[71] In most areas, the leaders met only once to plan for a farmers' meeting; in a few others (as in RALAT-K-SP-2), the leaders held two to four sessions before plans for such a meeting were finalized. Of the 51 planning sessions conducted after March 1981 in Zone III-B, 31 (or 61 percent) dealt with a forthcoming farmers' meeting; in Zone IV-A, 20 (or 53 percent) of the 38 leaders' sessions discussed plans for a farmers' assembly (see Table A22 for details). The remaining sessions (20 in Zone III-B and 18 in Zone IV-A) planned for farmers' participation in activities like walk-throughs, and ROW negotiations.

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[71]Beginning July 1981, farmers who attended a meeting which had to be reset were drawn into the planning for the rescheduled meeting. This planning mode was observed in about one of every four farmers' meetings slated in the documentation zones.

And third, leaders and/or COs notified other farmers in the rotational area about the planned meeting. Beginning April 1981, the leaders increasingly assumed the function of informing their fellow farmers about a scheduled meeting. As a result, leaders took charge of the notification campaign in at least 75 percent of the meetings scheduled; COs assisted them in the remaining cases.[72] Between April 1981 and March 1982, about 60 percent of farmers in an area were notified by leaders and/or COs about a forthcoming meeting.

Attendance in meetings. About half of farmers in the rotational area who were told about a meeting attended the convened session (see Tables A24 and A25 for details). A typical meeting in Zones III-B and IV-A respectively drew 18 and 22 farmer-attendees, or about 41 percent and 33 percent of farmers in the areas concerned (see Table 8). Of those who were present in a meeting, about half participated in the deliberations.

Of the 96 meetings scheduled in the documentation zones, 39 (or 41 percent) were either canceled or postponed, with 23 (or 24 percent) called off because the farmers who came to the meeting decided that the attendance was not sufficient for the group to transact official business. What did farmers consider as "poor" attendance rate? For meetings postponed because of poor attendance, the average attendance rates ranged between 4 percent and 50 percent in Zone III-B, and 1 percent and 24 percent in Zone IV-A. Interestingly, the attendance rates in convened sessions never exceeded 60 percent. In Zone III-B, the rates varied between 24 percent and 56 percent; in Zone IV-A, between 13 percent and 58 percent. These comparative figures suggest that farmers' groups diverged in their definition of "sufficient attendance." While some would consider 13 percent as a tolerable rate, others viewed 40 percent to 50 percent as inadequate.

Interviews with COs, zone engineers, and farmer-leaders suggested the following causes of low attendance in meetings: (1) farmers' lack of information about the project, (2) existence

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[72]In two areas (RALAT-L-SP-1 and RALAT-K-3), the farmer-members who came to the postponed meetings were mobilized to inform their peers about the new schedule of the farmers' meeting.

of faulty canals constructed by NIA in 1975 which made a number of farmers feel wary about the present NIA project, (3) poor timing (for instance, farmers' meetings were planned for Sundays when farmers go to the cockpit, or meetings coincided with weddings, death anniversaries and the like), (4) inadequate groundwork or personal contacts by COs and/or leaders, (5) bad weather conditions, and (6) farmers' preoccupation with farm work.

The proportion of canceled or postponed meetings was highest in the months of July, August, and December in Zone III-B; and in October, November, and December in Zone IV-A. During these months, at least three of five scheduled meetings did not materialize. These months, except December, coincided with any of the following time-intensive stages of rice production: land preparation, transplanting, and harvest. When COs and/or leaders could predict low attendance because farmers would be too engrossed in celebrating a social event (like Christmas), they postponed a planned meeting before the scheduled date (as they did in eight instances). Moreover, in areas where COs felt that they could not make any headway because farmers were too busy in their farms, they suspended organizing work (including holding of meetings) until the farmers were relatively free of farm work.[73]

Because some of the farmers' meetings had to be postponed owing to poor attendance, COs and leaders used diverse methods to improve attendance during meetings.[74] The commonly employed strategies involved leaders' house-to-house visits with members to personally announce a planned farmers' meeting and/or to ask

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[73]COs, for instance, stopped organizing activities in three areas (RALAT-K-SP-2, RALAT-L-4, and RALAT-L-6) for two months in late 1981, and resumed work after the farmers had harvested their wet rice crop.

[74]Despite fluctuations of monthly figures, the average percentages of farmers informed about a proposed meeting were higher for meetings which were convened (76 and 74 percent in Zones III-B and IV-A, respectively) than for those which were postponed (72 and 50 percent).

prospective attendees to sign an announcement sheet.[75] In December 1981, leaders in an area (RALAT-L-8) discussed three related solutions to the low-attendance problem: wage an intensive information drive about the project, coordinate with Parent-Teachers' Association officials in order that farmer-leaders could instruct public schoolchildren to inform their parents regarding scheduled farmers' meetings, and hold meetings at the water management technologist's working station to show the farmers that the project had already started. In January 1982, leaders in another area (RALAT-K-4) attempted to draw more attendees to the meeting by announcing the scheduled assembly over a public address system (from the meeting place) on the day of the meeting. In yet another area, the leaders scheduled a drinking session after the meeting to attract more attendees.

Conducting farmers' meetings. The overall area chairman or one of the COs' contact leaders who eventually became the overall chairman normally presided over the farmers' meetings. The area secretary, in turn, usually recorded the attendance. Starting in October 1981 and upon instruction of CO, the farmer-attendees were asked to sign the NIA-provided attendance sheet.

During the first two meetings in a rotational area, discussion invariably included the following.

1. Dissemination of project information. COs and farmer-leaders discussed the following: source of water for the proposed Lower Lalo system (Lake Buhi), COs' role in the project, expected participation of farmers in project activities in the context of the project's participatory approach, the TS' paper location of canals, and forthcoming activities in the area.

2. Organization of farmers' committees. To facilitate farmers' involvement in the project, COs and their contact leaders encouraged the information of working committees in the area (for details see section on forming committees). (Of the 25 areas which created

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[75]The announcement sheets were provided to the farmer-leaders by COs. These sheets were first used in the leaders' notification campaigns for meetings in November 1981. Earlier (in June), RAMC-19 leaders asked other farmers to sign a letter (requesting TS' presence in a conference on the paper location of canals for the area) to signify their intention to attend a planned farmers' meeting.

committees, 19 accomplished this task during the first meeting in the area; the rest postponed this activity until the second or third meeting. These subsequent meetings were better attended than the first. For details, see Table A25.

3. Planning of future activities. In most cases, farmers initiated the scheduling of activities which would follow their initial meeting. In a number of areas, farmers planned to prepare their area's spot map and their proposed canal and ditch line location, and to invite TS to survey the area.

In subsequent or follow-up meetings, farmers' discussions centered on specific activities or results of these activities. The following topics illustrate the concerns which farmers addressed during these sessions.

1. Confirming farmer-leaders' suggested paper location of canal and ditch lines. The meeting which focused on this task usually took place between the time that farmer-leaders finalized their paper location of lines and the holding of TS-farmer conference on the proposed canals and ditches for the area. Another meeting was scheduled if revisions were introduced to the farmers' proposal during the TS-farmer walk-through and/or conference. (For details, see section on preparing the system design.)

2. Requesting a survey or resurvey of the area. After farmers had investigated the suggested canal and ditch lines with TS, they discussed the issue of requesting a survey of the area to finalize the location of canals and ditches. In instances when initial surveys had resulted in contentious canal and/or ditch line location, farmers usually arranged for a resurvey of the area. Having scheduled the survey or resurvey, leaders enjoined the members to accompany the NIA survey team when the latter covered their farm. (See section on conducting surveys with TS for further discussions.)

3. Strategizing farmers' negotiations for right of way. Once farmers had confirmed the paper location of canal and ditch lines, they discussed strategies for conducting ROW negotiations with landowners affected by the canals

and/or ditches. Moreover, they considered ROW negotiations for lands traversed by the access road after TS had shown farmer-leaders the route of the proposed road. (For details, see section on securing rights of way.)

4. Planning for field trip to Upper Lalo. Beginning in December 1981, leaders presented their tentative plans for a field trip to the National Power Corporation forebay dam, the control structure in Lake Buhi, and the Upper Lalo project area. The trip's schedule was subsequently finalized and a list of farmer-participants was drawn up.

Farmers raised various issues during meetings. Because ZE was often present during the farmers' meetings, he helped COs answer queries of farmers. The questions which farmers initially raised are as follows.

1. Will irrigation water really reach the area? ZE assured RALAT-K-3 farmers that a reservoir had been constructed in Santa Justina, Buhi so that Lake Buhi could be used as a source of water for the proposed Lower Lalo system.

2. Will damages to lands traversed by canals be paid? ZE answered that damages on lands affected by the main and lateral canals would be paid. However, ROW claimants would be asked to accomplish certain requirements.

3. Will there be flooding as a result of the irrigation system to be constructed? ZE said that NIA would make sure that flooding is avoided. Drainage canals would be installed to absorb excess water from the fields.

4. Who will undertake the construction of the canals? ZE replied that farmers would be given priority. Farmers would be paid for canal-construction work. However, construction of internal ditches would not be paid.

As farmers became more involved in the project, their questions became more specific, as illustrated in the following examples.

1. Will downstream areas be affected by the elimination of RAMC-SP-4? This question was raised by six Zone

IV-B farmers who came to a farmers' meeting in RAMC-SP-4. ZE allayed their fears by saying that Zone IV-B RALAT-M-1 and RALAT-M-2 could still be served since the proposed Lateral M could take off from a section which would be independent of RAMC-SP-4.

2. Could a 6-hectare area which is not found in the TS' paper location but which to farmers' assessment could be served be included as irrigable area? ZE answered that he would consult with the design staff on this matter. However, the decision would also depend on the results of the survey. It was best to play safe, he said, because he did not want to raise expectations. Farmers' enthusiasm might be dampened if he gave an assurance now that the 6-hectare area could be served and later reversed his position.

3. Can the existing turnout in RALAT-L-1 be used by RALAT-L-2 farmers? ZE said that this does not contradict TS' plans. However, RALAT-L-2 farmers should obtain the permission of their colleagues in RALAT-L-1 since a main farm ditch would cut through the latter area.

Farmers' meetings lasted between 45 minutes and 4 hours. The shortest sessions were those which solicited farmers' confirmation of the leaders' paper location of canal and ditch lines. Members were usually quick to endorse the leaders' proposed canal and ditch locations, hence sessions on this seldom went beyond an hour. The longest sessions, in turn, included those which organized committees and/or discussed results of surveys. Meetings which threshed out complaints of farmers over survey route taken by the TS-farmer team or their objections to survey results usually lasted more than three hours.

The meetings usually ended with a brief action-reflection session. COs and the overall chairman elicited farmers' assessment of the meeting's strengths and weaknesses, their reactions to the decisions reached during the meeting, and their proposed activities. In a number of cases, planning of subsequent activities transpired during this concluding section of the meeting.

Preconstruction Technical Activities

Until March 1982, the project office was undertaking three major types of pre-system construction activities in the documentation zones: preconstruction organizational activities by its institutional development division; preconstruction technical activities by its engineering division; and construction of project facilities (such as access roads and water management technologist's working stations) by its construction division. NIA wished to involve farmers in all these activities for the following reasons: (1) to develop farmers' organizational skills through their involvement in activities which greatly interest them, (2) to draw on farmers' knowledge of the area in locating canals, and (3) to construct canal lines which farmers would be satisfied with (thus avoiding the situation which NIA faced in other projects where farmers filled the canals they found objectionable).

In this connection, farmers were encouraged to engage in the following tasks: (1) preparing the preliminary location of canals and ditches, (2) negotiating the canal and ditch routes with TS, (3) locating the canals and ditches and conducting surveys with TS, and (4) negotiating for rights of way with landowners. To further prepare themselves for the construction phase, several farmers' groups also undertook manpower inventory and/or visited the structures and terminal facilities in Upper Lalo, the forebay dam of the National Power Corporation, and the control structure in Lake Buhi. As farmers were drawn to participate in the project activities, a more intensive interaction was demanded between farmers and the technical staff than was normally the case in irrigation development work.

Preparing the preliminary paper location of canal and ditch lines

Starting in late 1980, the project's design section conducted an inventory of existing facilities, a review of available parcellary maps and of results from the 1973-74 NIA topographic surveys, and a check of area computations using the parcellary maps. By April 1981, TS had completed the paper location of canals and structures for the upstream zones (III-A to IV-A) of Lower Lalo. Two months later, they finished the layout for Zone II-B and Zones IV-B to VI-B, all of which would draw water from the left connector canal. TS then reviewed their paper location through

several field investigations, and consequently revised the first drafts. By July 1981, the project office had delineated the proposed Lower Lalo system's service area.

COs presented the TS' preliminary paper location of canals to the farmers to give them a sense of project plans for their area, and to elicit farmers' opinions to the proposed canal lines. In previous NIA irrigation projects, farmers rarely articulated their reactions to the TS' maps because they found it difficult to visualize the proposed canal lines shown in the maps. In Lower Lalo, COs suggested that farmers create spot maps of their respective areas. These spot maps were rough sketches (that is, not drawn to scale) on which the farmers could locate lands cultivated to rice and other crops, roads, schools and other landmarks, and on which they could draw in possible canal and ditch lines. These maps could be prepared out in the field so that farmers could get a clear understanding of how the land they knew so intimately was represented on paper, what problems their suggested canal and ditch lines would likely bring about, and how these problems could be resolved. The process, therefore, was expected to result in a paper location of canal and ditch lines which farmers could fully understand, and which they could present to the TS for the latter's assessment of the proposal's technical feasibility. The final canal and ditch lines, however, would be determined only after the TS-farmer agreed lines had been surveyed and found feasible.

When COs started to mobilize farmers for the preparation of spot maps and paper location of canals and ditches, they were met with varying responses. While a number of farmers' groups performed these tasks with very little, if any, reservations, some were skeptical over the worth of farmers' involvement in what they considered as basically technical activities. Among the issues that reluctant farmers raised were: farmers' lack of technical training, TS' possible disparaging reception of farmers' suggestions, and TS' unloading of their responsibilities to farmers. (For a more detailed presentation of these issues, see Illo and Felix 1981.) Over time, however, fewer and fewer farmers resisted COs' efforts to mobilize farmers for the preparation of spot maps and paper location of canals and ditches.

Several farmers' groups in Zones III-B and IV-A initiated spot-mapping activities in March 1981 (that is, before the farmers were classified into rotational areas) while other groups carried them out later. The process through which farmers in these groups participated in the preliminary system design preparation

consisted of the following steps: (1) creating a farmers' committee on spot map (and, in a few cases, another on walk-through); (2) conducting a walk-through of the rice farms in the rotational area to define the area's boundaries, to ascertain the shapes and sizes of farm lots, and to identify possible canal and ditch routes; (3) drawing the spot map; and (4) formally confirming the spot-map committee's paper location of canals and ditches in a meeting or during the leaders' groundwork activities. Farmers subsequently met with TS to finalize the canal and ditch routes (see discussion on TS-farmer conference for details).

Forming spot-map committees. In most rotational areas, COs encouraged farmers to create a small group which would prepare the spot map and paper location of canals and ditches. (In at least one area, however, the farmers decided not to form a special committee because of the area's small size; instead, all 17 members agreed to help the overall chairman in this task.) Spot-map committee chairmen and members were usually selected for their skills in sketching. Committee membership ranged between three and six in the 21 (of the 23) areas which formed spot-map committees.

Conducting walk-throughs. Farmers of a rotational area held at least one walk-through at their area before drafting the spot map. This activity involved about eight farmers who covered the area on foot while they identified possible canal and ditch routes. With the help of the TS' paper location of canals, the farmers also delineated the boundaries of the rotational area. The walk-through, therefore, enabled farmers to verify the boundaries and the terrain of the area. Moreover, as potential canal and ditch lines were identified during the walk-through, farmers initiated right-of-way negotiations with owners of land to be affected by the canal and ditch network.

Between April 1981 and March 1982, 32 walk-throughs were held by farmers in 24 of the 30 rotational areas which the documentation zones' COs covered at one time or another within the 12-month period (see Table A26). In addition, 38 farmer-leaders from eight Zone III-B areas held a joint walk-through in February 1982; they covered 6 kilometers in about 5 hours. This walk-through aimed to investigate the proposed Lateral K which would be surveyed three days hence. The leaders wanted particularly to verify whether the proposed lateral canal line held no problem to any of the zone's rotational areas. They also intended to discover how Lateral K rotational areas relate to one another.

Although a spot-map committee (and in eight areas, a separate walk-through committee) was created in most of the areas covered by COs, over half the walk-through drew participants beyond the spot-map committee membership. Moreover, ZE accompanied the farmers in at least 8 of the 18 walk-throughs in Zone III-B and in 3 of the 14 in Zone IV-A. Members usually involved themselves in this activity because of any of the following reasons: the walk-through was done either immediately before or after a general meeting of the farmers in the area; leaders encouraged farmers whose lands might be traversed by a proposed ditch route to join the walk-through; or in the case of second or third walk-throughs, farmers decided to verify their leaders' suggested ditch lines after the planned route was discussed with them. The most frequent participants, however, were the overall chairman of the rotational area, the spot-map committee head, and other committee chairmen.

The walk-through teams covered from half a kilometer to 3.5 kilometers, or an average (mean) of about 2 kilometers (see Table A26 for details). This activity took an average of about 2 hours though the time varied between 25 minutes and 6 hours depending on the size of the area and the discussions which ensued during the walk-through.

Sketching the area's spot map and paper location of canals and ditches. At the end of a walk-through of the area, leaders began sketching the area's spot map. This map, though not drawn to scale, contained two features: a lot-by-lot layout of rice-fields, coconut farms, and other cultivated areas; and a list of farmers and/or landowners corresponding to the lot number in the map. The maps generally also showed major landmarks such as roads, schoolbuildings, and stores. The spot maps reflected names of farmers and familiar landmarks; thus, they were more understandable to farmers than the TS' maps. Because of these characteristics, the spot maps became useful to farmers in visualizing possible canal and ditch network. And once the map had been sketched, the leaders proceeded to incorporate the canal and ditch routes which were identified during the farmers' walk-through. Figure 13 presents an illustrative example of a spot map prepared in the documentation zones.

The spot map and paper location of canals and ditches for a rotational area were usually prepared by the spot-map committee chairman with the help of one or two committee members and/or other farmer-leaders. The map was normally completed and ready for presentation to farmers within a period of four days to three weeks.

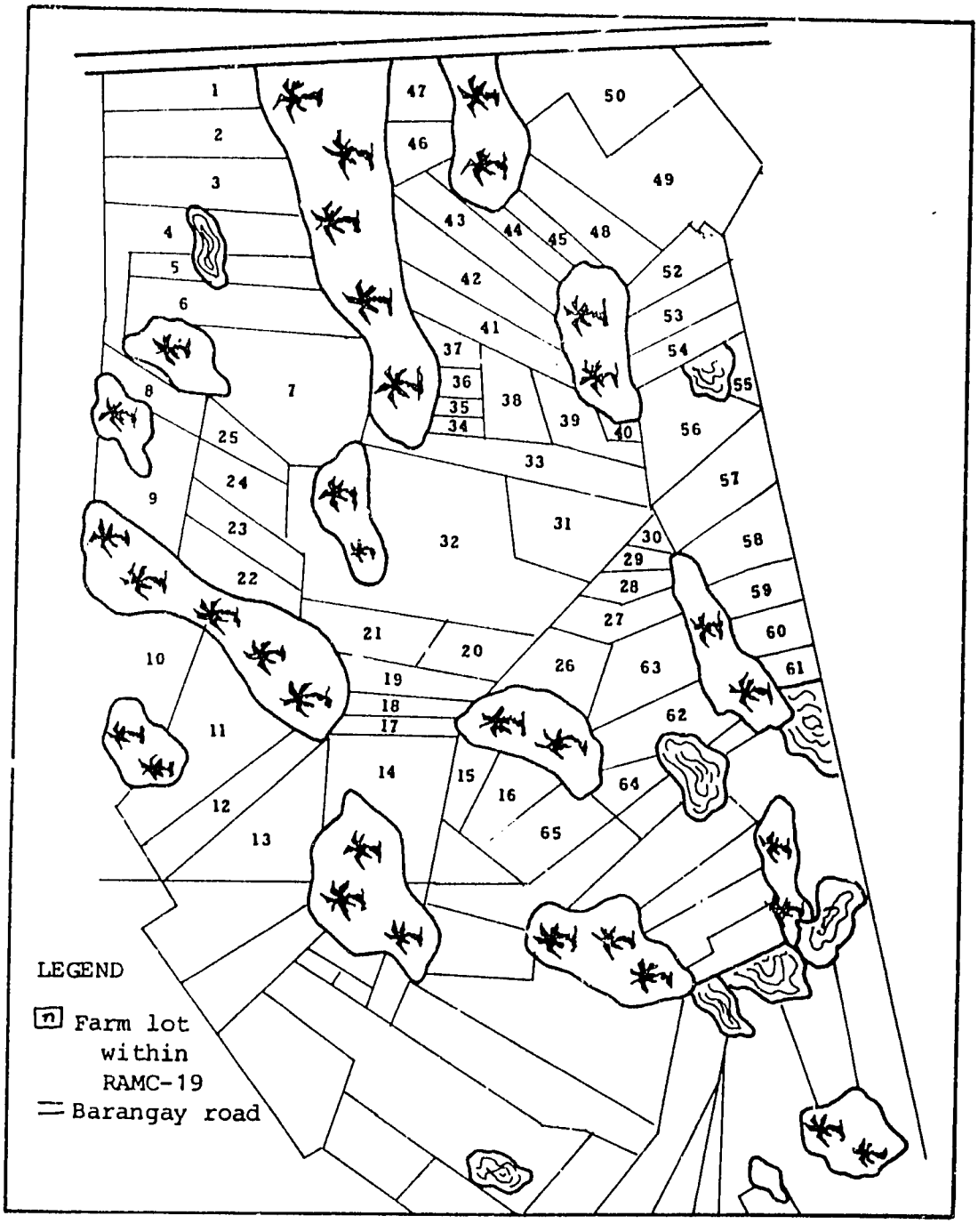

Figure 13. Sample of a spot map (RAMC-19) prepared in the documentation zones before August 1981, Rinconada/Buhi-Lalo project

Although the pattern described above was observed in most areas, several variations were noted in the conduct of spot map preparation. Some of these variations were as follows.

1. In a Zone III-B area (RAMC-18), the spot-map committee chairman initially sketched the area's map without the benefit of a prior walk-through. He then overlaid the TS' proposed canal lines on the map and sketched in those lines in his spot map. Having finished the map, he proceeded to hold a walk-through of the area to confirm his work. When the other farmer-leaders reviewed the prepared map, they were disappointed with it since it was a replica of the TS' paper location. Thus, the overall chairman decided to redo the map. Together with four other leaders, the overall chairman conducted a walk-through of the area to gather data for the new map, and to identify possible ditch locations. The revised map was completed in less than one week's time.

2. In a Zone IV-A rotational area (RALAT-L-10), the spot-map committee head did a walk-through of the area during which he requested farmers to show him their land's tax declaration receipts. Then he compared the data found in the documents (for example, name of owner, area of the land) with the lot number indicated in the TS' paper location (which was based on the Bureau of Land's parcellary map of the area). This procedure facilitated the leader's identification of farm boundaries and delineation of ricefields. After the walk-through, he drew the map and indicated the possible canal and ditch lines which he alone identified during his walk-through. Seven months after, the spot-map committee head, together with 5 other leaders and 15 members, reviewed the map drawn in August 1981. The group confirmed the lines which the spot-map committee chairman indicated in the map.

3. In at least two Zone III-B and two Zone IV-A areas, the leaders decided to prepare the spot map before a walk-through. (Moreover, the map of the Zone IV-A areas were started before a spot-map committee was created.) The map was then verified through a walk-through (with members) during which the leaders identified possible ditch lines which they then overlaid on their preliminary map of the area. The walk-through also indicated a few

modifications (such as boundaries between farms) on the map. The map was finalized after the walk-through.

4. In areas where previously organized arbitrary groups had completed a spot map (as in RAMC-19, RALAT-N-1, and RALAT-N-2), leaders prepared the area spot map by referring to the arbitrary group's map and deleting portions not found within the rotational area, or adding those covered by the rotational area but not by the arbitrary group. The leaders then delineated on the revised map their proposed routes for different canal types.

While preparing the spot map, farmer-leaders often encountered the following problems: difficulty of identifying current owners and/or cultivators of ricelands as a consequence of unreported assignment of cultivation rights and/or changes in ownership resulting from bequest, mortgage, or sale; and refusal of a number of landowners to declare the exact size of their rice farms because they feared that this information would be used for taxation purposes.

Despite the problems which persisted until the end of March 1982, the farmers' paper location of canals and ditches markedly improved. (The maps, however, continued to focus on canal and ditch lines and to exclude structures.) Paper location prepared in July 1981 or earlier did not specify the types of canals (the farmers referred to the lines they identified in their map by the generic terms kanal or kale) but merely focused on the routes. Beginning in August 1981, however, farmers' paper location indicated their suggested lines for the laterals (in the case of areas to be served by a lateral) and the main and supplementary farm ditches (see Figure 14). (In rotational areas which draw water directly from the main canal, farmers took the existing main canal as a given in suggesting routes of main and supplementary ditches.) Thus, only the internal ditches which led to the individual farms and the canal or ditch structures were left out in the farmers' maps. Moreover, farmers' proposed ditches tended to observe technical criteria on distances between ditches (about 200 meters) and the maximum length of a ditch (500 meters). A number of leaders attributed the changes in the quality of farmers' paper location of canals and ditches to their deeper understanding of canal types brought about by frequent contacts with TS beginning August. Moreover, their proposed routes were "refined" during walk-throughs held with ZE. For example, a walk-through held by farmers with ZE in a Zone III-B area resulted in

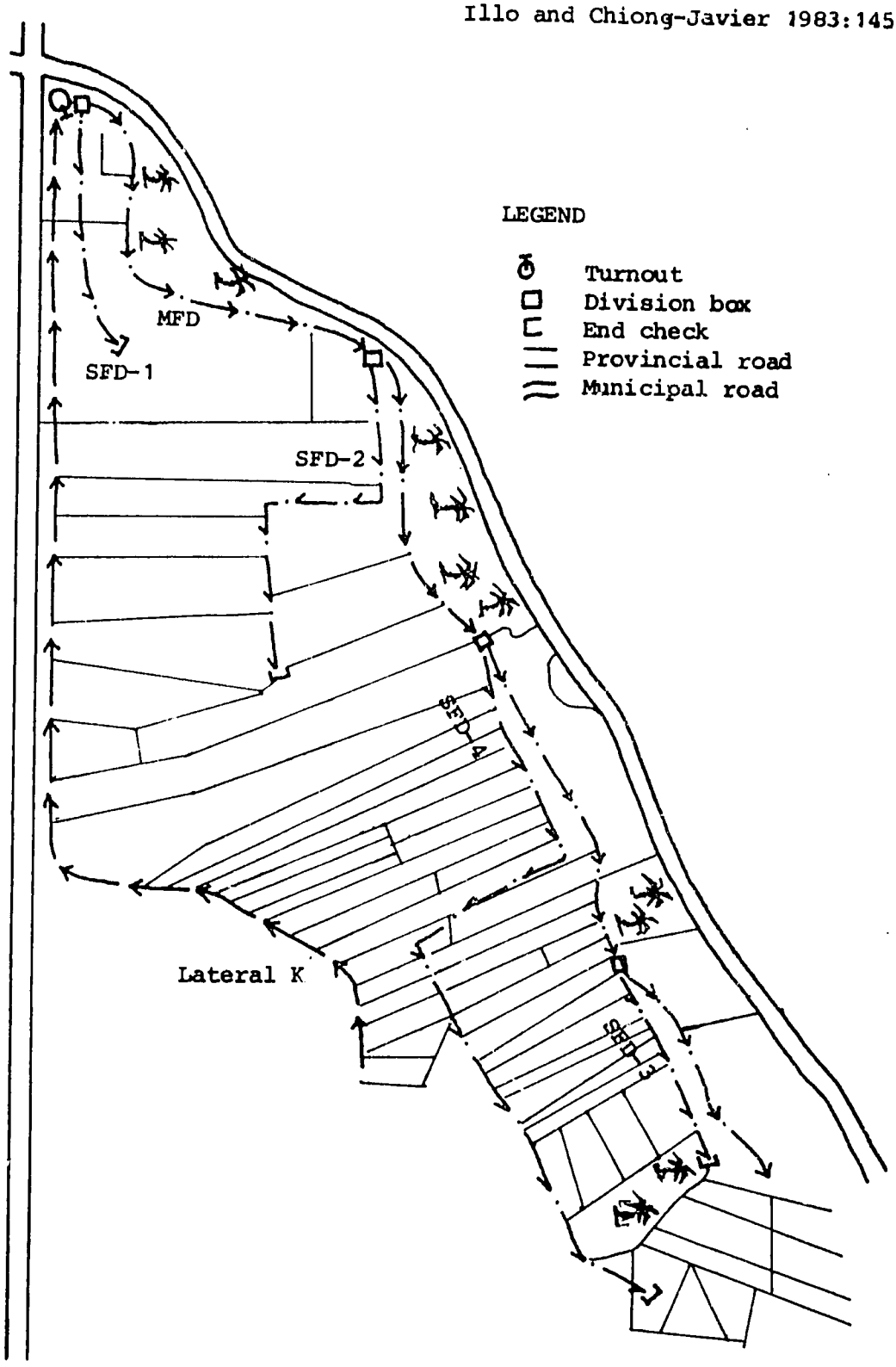

Figure 14. Sample of a spot map (RALAT-K-2) prepared in the documentation zones after July 1981, Rinconada/Buhi-Lalo project

the simplification of the ditch network since ZE found out that a single supplementary ditch could serve the entire area. Meanwhile, a walk-through held by leaders and ZE in a Zone IV-A area effected the rerouting and shortening of SFD-1.

Confirming the leaders' proposed location of canals and ditches. Upon completion of their area map and paper location of canals and ditches, farmer-leaders proceeded to solicit farmers' reactions to the data contained in the map, including the suggested canal and ditch routes. Farmers' reactions were gathered either of two ways: in a farmers' meeting (or, in at least two areas, a TS-farmer conference) during which the leaders presented the spot map, or during the leaders' visit to different farmers in the course of their groundwork activity. About 17 of the 23 areas which had completed maps sought farmers' opinion about the map and proposed canal and ditch network during a farmers' meeting. The remaining six area maps were discussed during the leaders' groundwork. Of the 23 areas with completed maps, farmers in at least three areas objected to the canal and ditch lines proposed by the leaders.

When no objections were raised to the map and the leaders' proposed canal and ditch routes, these materials were considered as confirmed. The farmer-leaders subsequently initiated negotiations for right of way with owners of land which would be traversed by the proposed canals and/or ditches. However, in instances when farmers questioned a proposed canal or ditch line, leaders and members held another walk-through to investigate the suggested line and/or to identify an alternative route. In a Zone IV-A area (RALAT-L-2), for instance, some farmers objected to the MFD line indicated in the spot map. Another walk-through was held; the farmers found a better line (that is, one which was expected to irrigate more farms) but this would take off from the RALAT-L-1 turnout rather than the RALAT-L-2 turnout. They then agreed to ask TS to check on the technical feasibility of the new main farm ditch line. (During the March 1982 survey of the area, the TS-farmer survey team identified a new turnout location for RALAT-L-2 from which the farmer-suggested line for the main farm ditch would take off; see Table A31). In instances when farmers could not agree on the route a canal or ditch would take, they postponed the resolution of the issue until the TS-farmer conference, walk-through and/or survey.

Negotiating with TS over the preliminary canal and ditch routes

After the farmers had discussed and/or verified the proposed paper location of canal and ditch lines prepared by their leaders, they were then ready to negotiate with the project's technical staff in order to reach final agreements on the routes to be constructed. Three major strategies were observed by farmers in the documentation zones.

1. Until October 1981, farmers in six rotational areas held meetings with the TS to discuss technical matters (such as design, survey, right of way, and construction) and the paper location of canals and ditches which were prepared by the project office and that prepared by the farmers. (In February 1982, two areas in Zone IV-A held a joint TS-farmer conference to discuss the canal and ditch lines which had been proposed by farmers to run through the two areas.) The conference was either preceded or immediately followed by a TS-farmer walk-through of the farmer-proposed lines. About one or two months after, a TS-farmer team surveyed the canal and ditch lines and the structures which had been identified during the TS-farmer walk-through.[76]

2. Between September 1981 and January 1982, farmers in five other areas chose not to have the TS-farmer conference and proceeded to a TS-farmer walk-through of their respective areas. This process was preferred by both farmers and the TS after a zone engineer had been fielded and had attended the farmers' meetings; thus, farmers' queries about technical issues had been discussed thereby rendering a TS-conference not very necessary. The agreements reached during these field investigations were then validated in a TS-farmer survey which was held about a month after.

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[76]Farmers in four Zone IV-A areas invited the project's design and survey staffs to join in a walk-through of the proposed Lateral L route which cut across these areas. All these areas had previously met with TS on the ditch routes for their area and/or conducted a walk-through of their area with members of the project's survey section.

3. Particularly beginning March 1982, farmers in five areas bypassed the TS-farmer conference and/or walk-through and proceeded to the location of canal and ditch lines with the project's survey section personnel (see discussion on locating canal and ditch lines with TS).

Convening a TS-farmer conference. Before a TS-farmer conference, leaders convened either a planning session or a farmers' meeting to schedule and prepare for the TS-farmer conference. Once a date was chosen, the project office was informed of the farmers' intention to meet with TS; this was done either through a letter signed by farmers of a rotational area or a personal visit to the project office by some farmer-leaders. The chief of the farmers' assistance division, in consultation with the head of the project's design section, then confirmed the schedule of the conference.

On the agreed date of the conference, 2 to 5 members of the project's design and survey sections met with 9 to 39 farmers (or 18 percent to 65 percent of area membership) in the farmers' chosen site within the rotational area (see Table A28 for details). The conference lasted between 1.5 and 3 hours; it was usually chaired by the elected overall area chairman. (In joint area meetings, the leaders selected either of the two area chairmen to preside over the conference). In his opening remarks, the presiding farmer-leader stressed the importance of the conference and farmers' participation in determining the canal and ditch lines in their area. He subsequently turned over the floor to TS who, in turn, discussed the following points.

1. Survey. The survey section head or an assistant explained that the survey team conducts three types of surveys: a reconnaissance or onsite inspection of the project area, a preliminary or topographic survey, and location of canal lines. TS then emphasized that canal and ditch lines would be finalized with the participation of the farmers.

2. Design. The design section head or an assistant presented two types of rotational areas: those to be served by the main canal, and those to be served by a lateral canal. A rotational area may have four or five supplementary farm ditches (SFDs) depending on its size. An SFD should not exceed 500 meters, and a distance of at least 200 meters should be maintained between SFDs. TS closed the discussion with an

assurance that farmers' suggestions would be considered before the system design were finalized.

3. Construction. The zone engineer or someone from the project's construction division stated that construction would be done on pacquiao contracts to give farmers a chance to work for pay. Pacquiao contracts, TS said, would be awarded by rotational areas (with the overall chairman presumably contracting for the interested farmers in his area). TS also emphasized that the construction division would implement what the design section had accomplished in consultation with the farmers.

4. Water management. A person from the project's water management section (or in their absence, any of TS present) explained that after the construction of the Lower Lalo system, water management would be done by the rotational method. This method had three variants: by section of the main ca , by section of the lateral canal, or by section of the main farm ditch. The exact rotational method which would be observed would be determined later.

After the TS' presentation, the farmers and TS studied the farmers' paper location of canal and ditch lines and compared this with that prepared by the project office in March or April 1981 (which was shown to the farmers during groundwork rounds by COs and/or farmer-leaders).[77] A number of the farmers' proposed lines differed from the TS' in these respects. First, while the TS' proposed lines often cut across farm lots (see Figure 15), farmers generally located the ditch lines along the boundaries of farm lots (see Figure 14). Farmers used this strategy to ensure that farmers share in the loss of land (which would be taken up by the ditches), thus minimizing right-of-way negotiation problems.

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[77]While discussing the canal and ditch lines for RALAT-L-6, a leader from RALAT-L-5 objected to the rerouting of a 300-meter section of Lateral L which divided the two areas. For details, see section on conducting TS-farmer walk-throughs and location of lines.

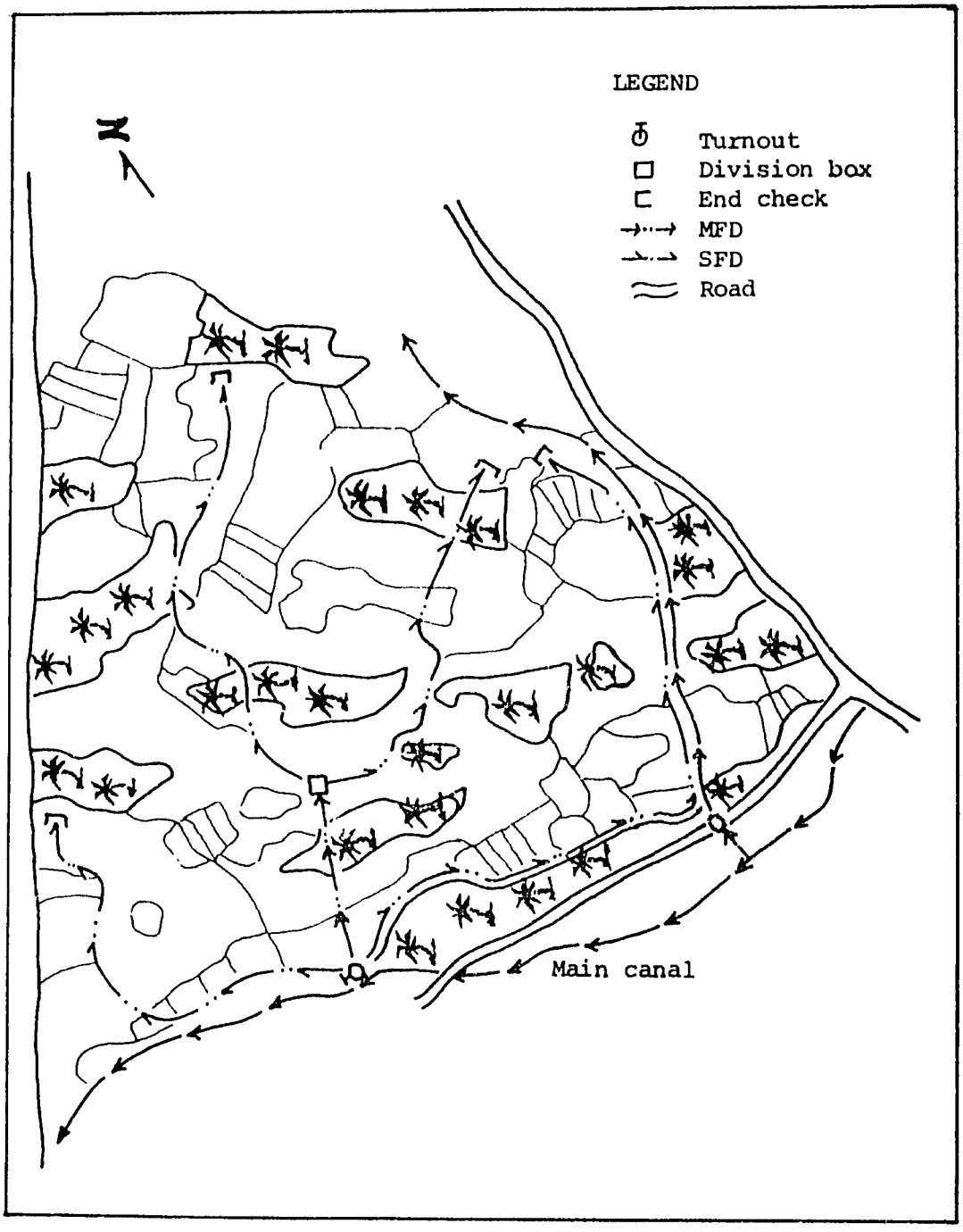

Figure 15. Sample of a TS' paper location (RAMC-18) of terminal facilities, Rinconada/Buhi-Lalo project

And second, when farmers planned the canal or ditch routes they frequently aimed at serving as many farms as possible. Because of this concern to spread the benefits from the project, they sometimes overlooked elevations and other factors which would render sections of the proposed ditch route technically impossible to construct (see Figure 16). TS, on the other hand, normally located the ditches in consideration of the terrain and other technical constraints; thus, they sometimes overlooked possibilities of expanding the potential irrigable area (see Figure 16). These differences were resolved during TS-farmer field investigations (that is, walk-throughs and surveys).

During the conferences, farmers also raised questions related to right of way, survey, construction, and system management (see Table A29 for details). As shown in the subsequent examples, TS usually responded to these queries by explaining the roles which the project office and the farmers could play in the different project activities.

1. Right of way. Farmers were generally concerned with the ROW negotiations they had to undertake and with compensation for damages resulting from canals and ditches which would be constructed. TS explained that farmers should solicit the signatures of landowners whose lands would be traversed by lateral canals; these signatures should be affixed on specific ROW documents; for those affected by the main and supplementary farm ditches, farmers would only have to seek verbal ROW approval. Farmers would negotiate with landowners; if the latter persistently refuse to grant ROW, NIA would intervene and might resort to expropriation proceedings against these landowners.

   For those who were entitled to ROW payments, TS said that payments will be made upon compliance of the following requirements: submission of a tax declaration, presentation of residence certificate, and payment of land taxes (that is, no arrears in tax payments beyond three years).

2. Survey. Farmers' concern usually centered on routes followed by the NIA survey team. TS explained that when they survey a lateral canal line, it is aimed at determining physical conditions, like "water surface elevation," which would help identify the final line. As regards farmers' objections to the canal routes

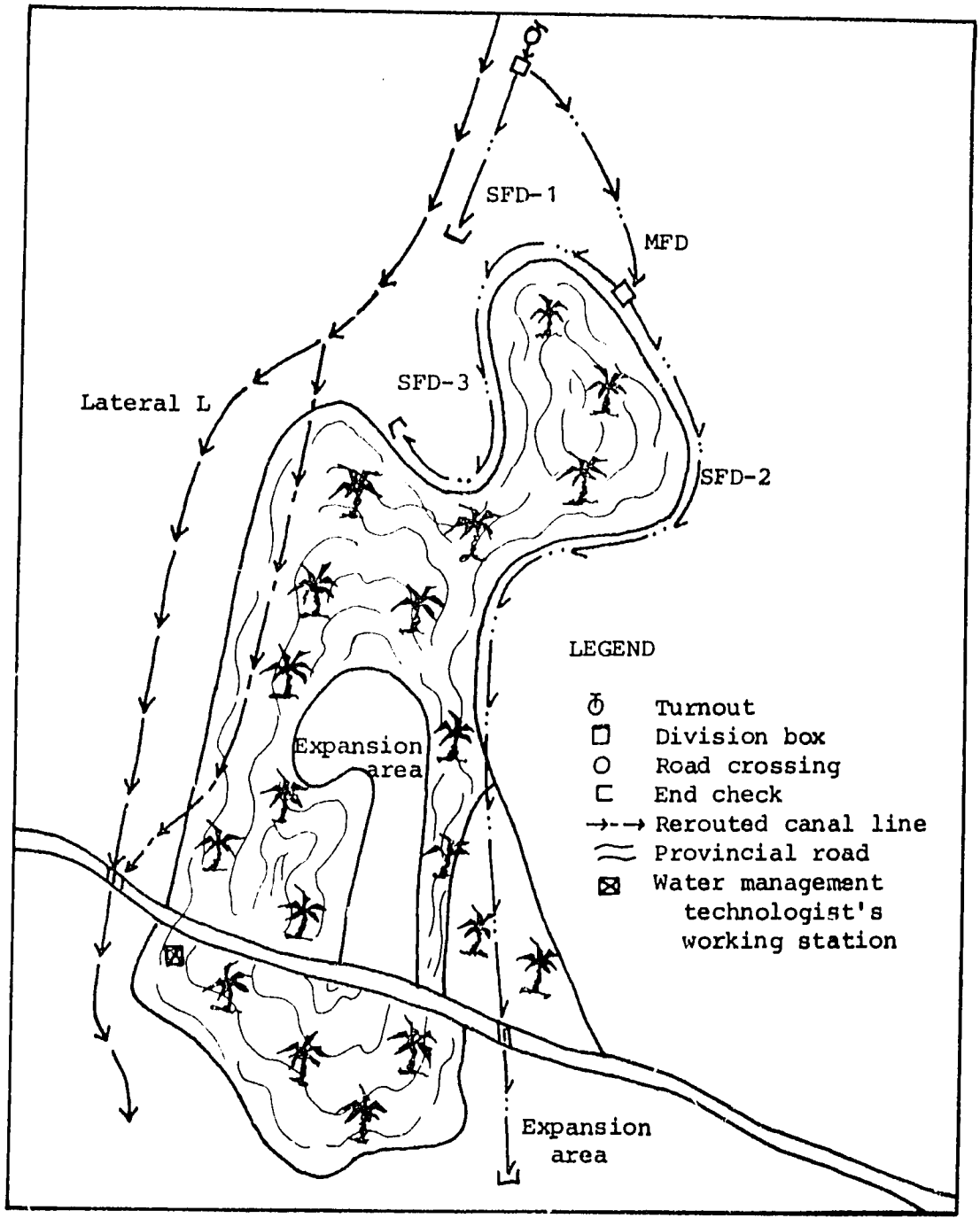

Figure 16. Farmers' proposed location of canal and terminal facilities in RALAT-L-6, Rinconada/Buhi-Lalo project

which were surveyed, TS said that they were not sure whether these objections (or suggestions) reflected general farmers' interests considering that only a few farmers joined the survey. To ensure that farmers' views were considered, TS urged more farmers to participate in the survey to locate lines. Furthermore, the project office would try to save small farm lots; but if no feasible alternative route is found, then the canal or ditch will just have to traverse these small farm lots.

3. Construction. Farmers inquired about the date of the start of construction in Lower Lalo and how construction would be undertaken. TS told the farmers that before construction could begin, several preconstruction activities would have to be completed (for example, review of the initial designs on the basis of survey results). The zone engineer will supervise construction activities in his assigned area. For the construction of canals and main and supplementary farm ditches, the project office will hire or contract farmers; construction of internal farm ditches, however, will have to be undertaken by the farmers at their own expense.

4. System management. When farmers asked about arrangements for the operation and maintenance of the system, TS answered that the irrigators' associations (which farmers in a zone would organize) would have to decide on most of the issues (for example, fees, fee collection, system personnel).

The TS-farmer conferences usually ended with a brief action-reflection session during which the presiding leader and/or COs solicited farmers' comments about the conference. This concluding session also often resulted in detailed planning of the scheduled TS-farmer survey of the area and farmers' right-of-way negotiations. In connection with the planned survey, the leaders present exhorted the members to participate in the activity.

Conducting walk-through with TS. To verify the canal and ditch lines indicated in the spot map, a TS-farmer team conducted walk-throughs. In all, 10 TS-farmer walk-throughs took place, with one conducted jointly by farmers in two rotational areas and another by farmers in four areas (see Table A30 for details). These walk-throughs covered 11 (of the 23) areas where farmers had

completed their paper location of canal and ditch routes. The walk-through team was usually composed of about six leaders, five members, COs, two or three design and/or survey section personnel. Often the zone engineer also joined the group.

A TS-farmer walk-through covered between half a kilometer to 5 kilometers, and took about 25 minutes to 3.5 hours. It usually proceeded in the following manner. TS and farmers started from a juncture closest to a road or, in case of a walk-through immediately after a TS-farmer conference, the group started walking from their meeting place. During the walk-through, the team made several stops. At each stop, TS and farmers studied the spot map then discussed, among other things, the contour or elevation of the suggested route. In case a ditch line was not considered as technically feasible by TS, the team then proceeded to identify alternative routes. On the other hand, whenever a line was found feasible, TS noted this down. At the end of the walk-through, the team would have delineated the temporary ditch lines which would be covered by the survey team and the structures which would have to be constructed at certain points of a canal or ditch.

The ditch lines which were tentatively identified during the walk-throughs generally approximated the farmers' rather than the TS' proposed routes (see, for example, Figure 19 and compare this with Figures 17 and 18). In some cases, the tentatively defined routes deviated from the farmers' suggested lines. Farmer-proposed lines were revised during the walk-through when the TS-farmer team found out that the ditch routes would cut through high grounds or easily flooded areas, or that the proposed ditches were located too close to each other. Nonetheless, the team understood that the final ditch routes would be established only after a survey of the area had been conducted. Because of this, TS decided in March 1982 to combine the two activities--walk-through and survey--to allow on-the-spot finalization of canal and ditch lines.

Some examples of tentative agreements reached during the TS-farmer walk-throughs include the following.

1. In RAMC-18-A, the team confirmed farmers' proposal to extend a ditch to reach two farms located at the other side of the road, thus TS suggested a road crossing. The team also agreed to convert an existing SFD, which was identified in the farmers' paper location, into a main farm ditch; to install a division box with drop near farmer-JA's land (suggested by TS); to shorten SFD-1 because TS found the farmer-suggested line too long, although this meant that about 9 hectares of

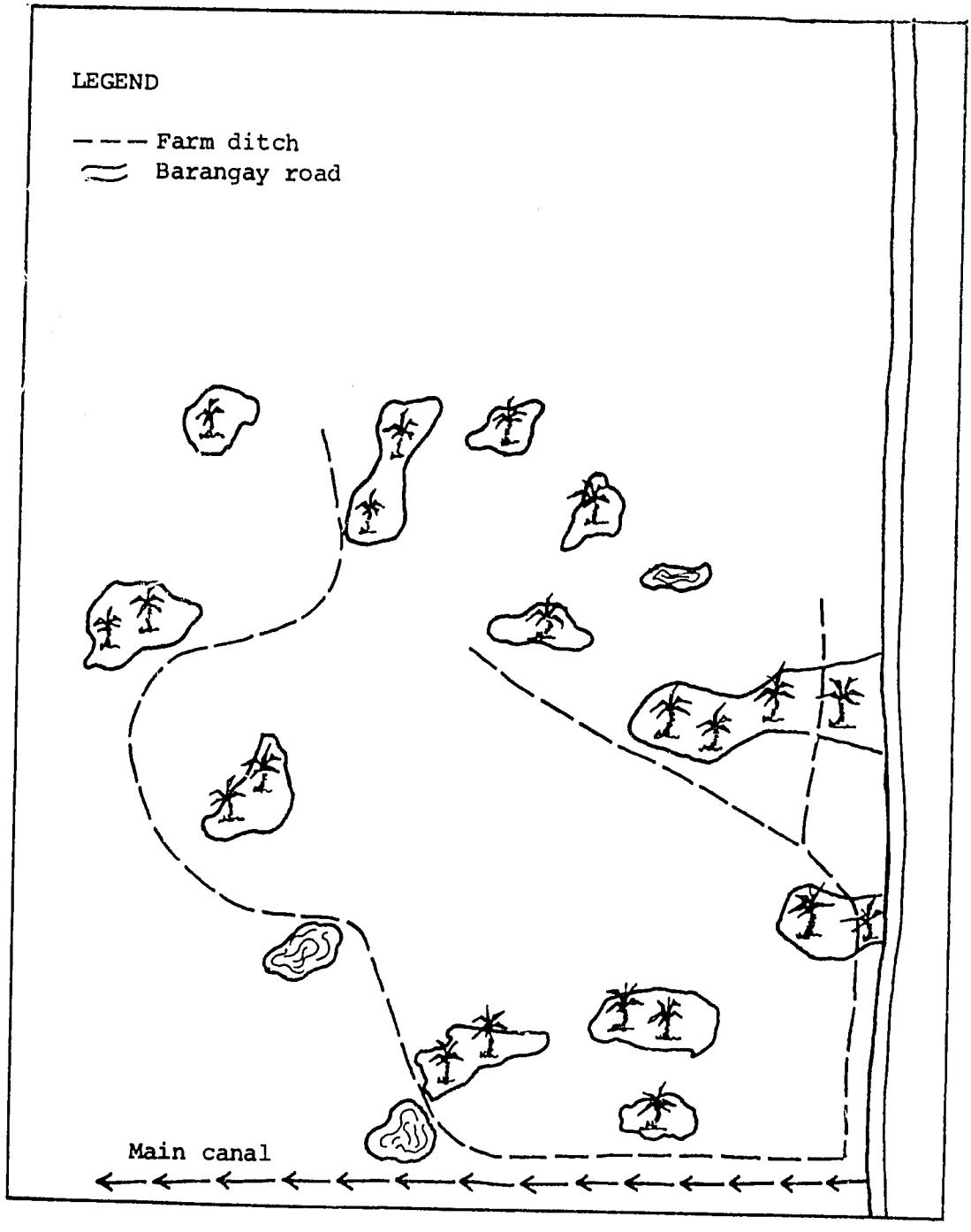

Figure 17. Farmers' proposed location of terminal facilities for RAMC-19, Rinconada/Buhi-Lalo project

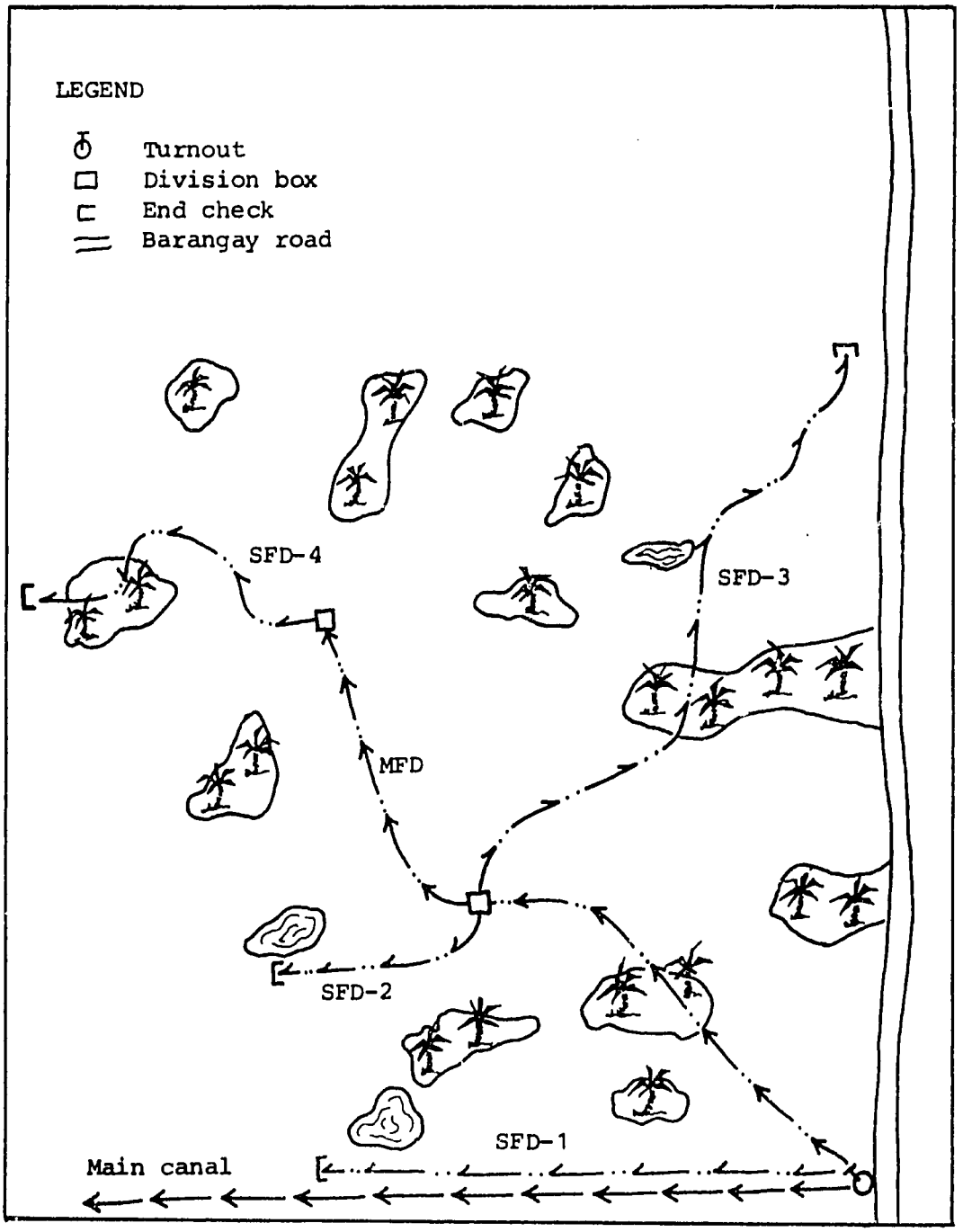

Figure 18. TS' paper location of terminal facilities for RAMC-19, Rinconada/Buhi-Lalo project

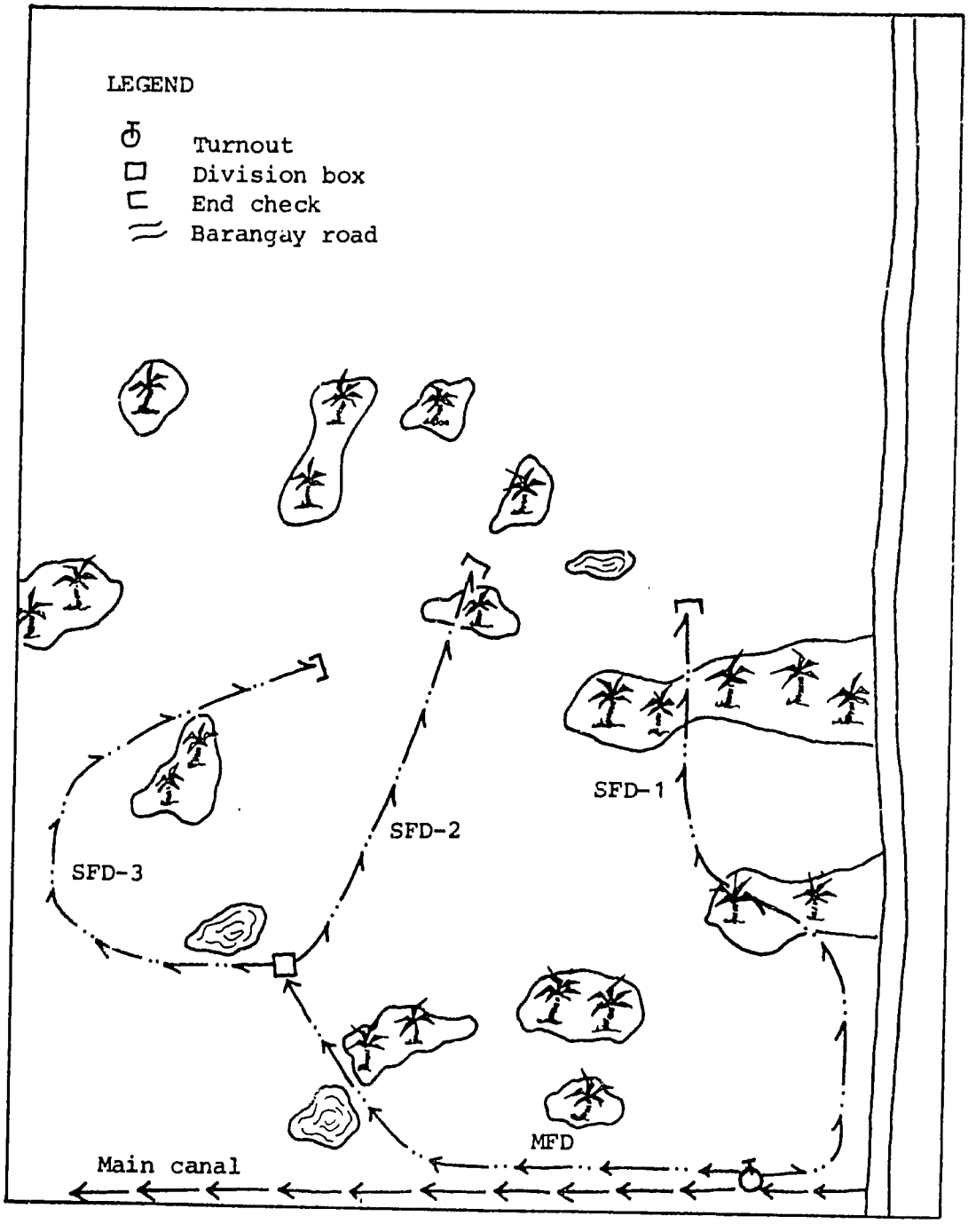

Figure 19. Location of terminal facilities identified during TS-farmer walk-through in RAMC-19, Rinconada/Buhi-Lalo project

riceland would not be served by the area's turnout; to widen an existing drainage ditch (not found in the farmers' spot map); and to hold a survey of the area the following week.

2. In RAMC-18, the team agreed to use the existing SFDs as proposed in both the farmers' and TS' paper location of lines; to follow the farmer-identified route of an SFD which would serve farms of former Subgroup 10 members; to build TS' suggested farm ditch crossings in SFD-1, SFD-3, and SFD-4; to construct a road crossing proposed by TS in SFD-4; and to inform the survey section head of the farmers' proposed schedule of the survey of the area through CO-1 and the zone engineer.

3. In RAMC-SP-4, the team decided to follow the farmers' suggestion that the proposed Lateral M would take off at the existing vertical drop in RAMC-18 and that the identified Lateral M route would cut through a high ground. The team also agreed to TS' suggestion of dividing the area into two because the proposed main farm ditch exceeded 2 kilometers thus two turnouts may be installed; and assigned CO-1 to inform the survey section of the farmers' proposed survey schedule.

4. In RALAT-K-SP-1, the team accepted the farmer-proposed routes for SFD-1 and SFD-2 (as indicated in the spot map), and also the farmer-proposed route for SFD-3 (but this ditch was rerouted to cut through high grounds to avoid traversing farm lots).

5. In RALAT-K-SP-3, the team agreed to have a turnout installed after the existing road crossing (outlet) as suggested by farmers, thereby increasing the area coverage by another 2 hectares; and decided to conduct a survey of the area four days after the walk-through.

6. In RALAT-L-6, the team investigated the farmers' proposal to reroute a 300-meter stretch of the existing Lateral L and the farmers' proposed ditch routes. The team tentatively agreed on the rerouted Lateral L line and decided to have the area surveyed to check on the technical feasibility of the new route.

7. In RALAT-L-7, the team agreed to ask the survey section to verify the feasibility of farmers' proposal to

extend an SFD in RALAT-L-6 to a section in RALAT-L-7 which could not possibly be served by the latter's turnout.

These agreements were discussed in TS-farmer meetings convened after the walk-through. The farmers present were usually asked to comment on the tentatively delineated lines and structures. In general, they supported the agreements reached during the walk-throughs. COs, TS, and leaders kept reminding the farmers that the final lines would be determined only after the survey team had investigated the canal and ditch lines.

Locating canal and ditch lines with the TS[78]

After the farmers had finished their spot map and had verified it in a walk-through with ZE and/or the project's design and survey personnel, farmers then requested TS to survey the area. The survey (location of lines) was scheduled during either farmers' meetings and leaders' planning sessions or TS-farmer walk-throughs and/or conferences. In most cases, COs and/or ZE relayed farmers' desire to the project's survey section head about their request for a survey. The survey section head then confirmed the survey schedule.

In all, 20 (of the 23) areas with completed maps were covered by the survey team. Of these, four were resurveyed after the initial location of canals and ditches yielded inconclusive results. The survey personnel were accompanied by an average of six farmers per day (see Table A31). The surveys took from one to five days, depending on the size of the area, the length of the canals or ditches to be covered, and weather conditions.

During the location of canal and ditch lines, the TS-farmer survey team utilized the spot map as guide. The farmers assisted TS by carrying the survey instruments and stakes. In areas where TS had to stay for several days, the leaders either helped arrange TS' lodging or provided TS free bed and board.

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[78]Apart from the location of lines, the survey section undertook traverse, profile, and cross-section of Lateral K in May 1981 and again in February 1982, and of Lateral L in November 1981 and January 1982.

After a canal or ditch line had been confirmed by the survey team, TS and farmers planted a stake every 20 meters to indicate the location. TS also undertook other measurements to identify the surveyed canal and ditch routes.

The results of these surveys varied from one area to another. In at least 8 of the 18 areas for which survey results were obtained by the research team, the survey simply confirmed ditch routes and structures indicated in farmers' spot maps and endorsed during the TS-farmer walk-throughs (see examples in Table A31). In 6 other areas, the survey identified final canal and ditch lines which departed partially from agreements reached during the TS-farmer walk-throughs. The divergence between the results of TS-farmer walk-through and those obtained during surveys ranged from dropping off one of the several lines proposed by the TS-farmer walk-through (compare, for instance, Figure 20 with Figure 16) to relocating 2 or more of the terminal facilities (see Figures 22 and 23 and compare them with Figures 21 and 19, respectively). In the remaining 4 areas, the survey introduced substantial changes in the farmer-proposed location of terminal facilities; in these cases, the final lines were determined only after a second survey of the area (for details, see Table A31).

In most cases, the survey results supported the farmers' judgments on which canal and ditch lines were appropriate or not. When changes in these lines were made, it was generally because of any of the following reasons: (1) a section of a ditch or canal would cut through high grounds; (2) a turnout, if relocated, could serve a larger area; (3) the farmers' proposed canal/ditch network could be simplified without loss of area coverage; or (4) the farms in a rotational area could be better served if two turnouts were to be constructed, thus calling for the division of the area into two and the redefinition of the ditch network in these areas.

Survey findings which were adjudged by farmers to be contentious were discussed during subsequent farmers' meetings. The following cases highlight the focus of post-survey deliberations which took place in the documentation zones.

1. In two former Zone IV-A areas (RALAT-N-1 and RALAT-N-2), the farmers' meetings which were held about a week after the end of the survey of the proposed Lateral N elicited the following comments: because TS covered a low-lying area instead of surveying a possible higher canal line nearer the Masoli (Bato) road as indicated in the farmers' spot map, the surveyed route would not serve

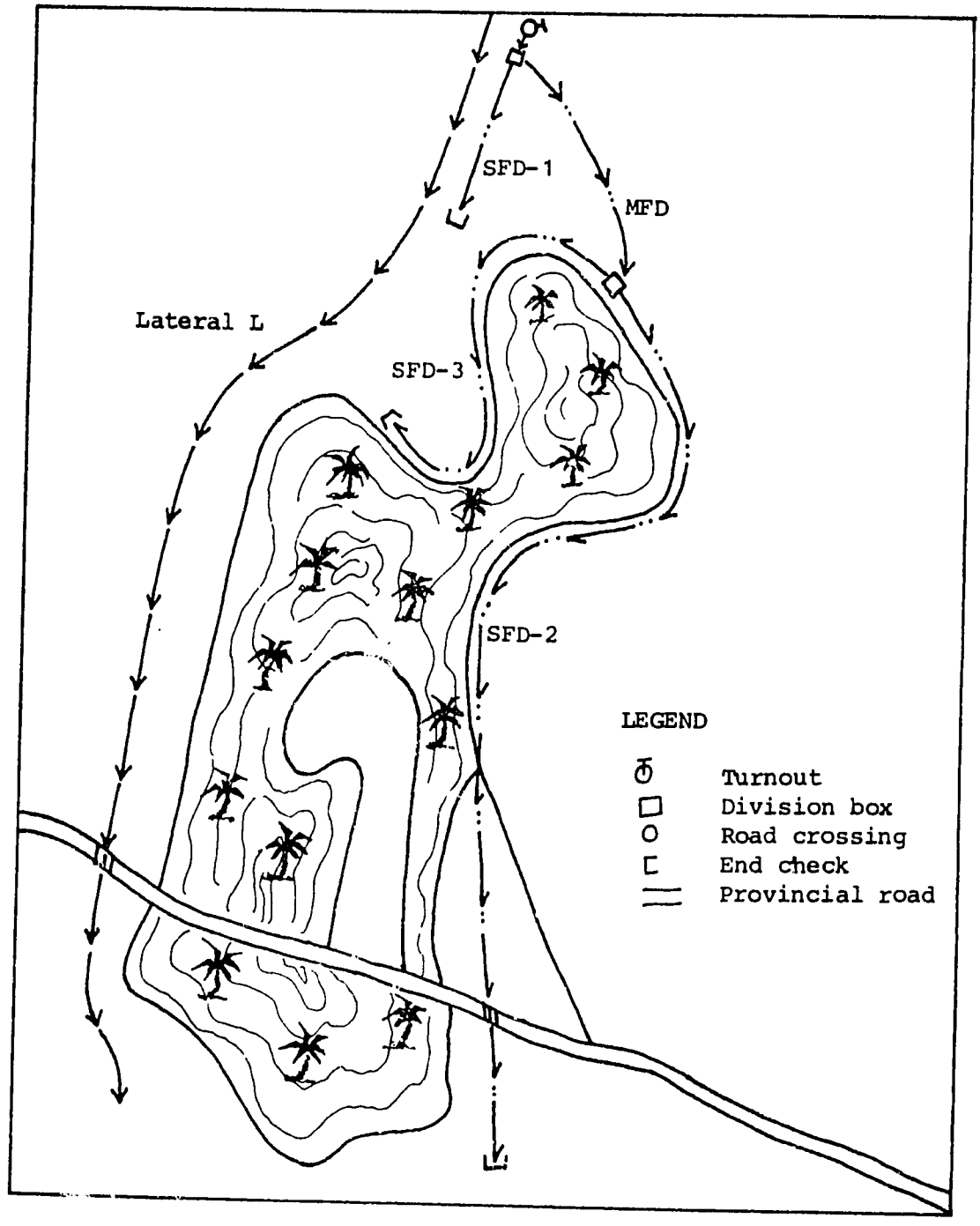

Figure 20. Final location of terminal facilities in RALAT-L-6 as identified by TS-farmer survey team, Rinconada/Buhi-Lalo project

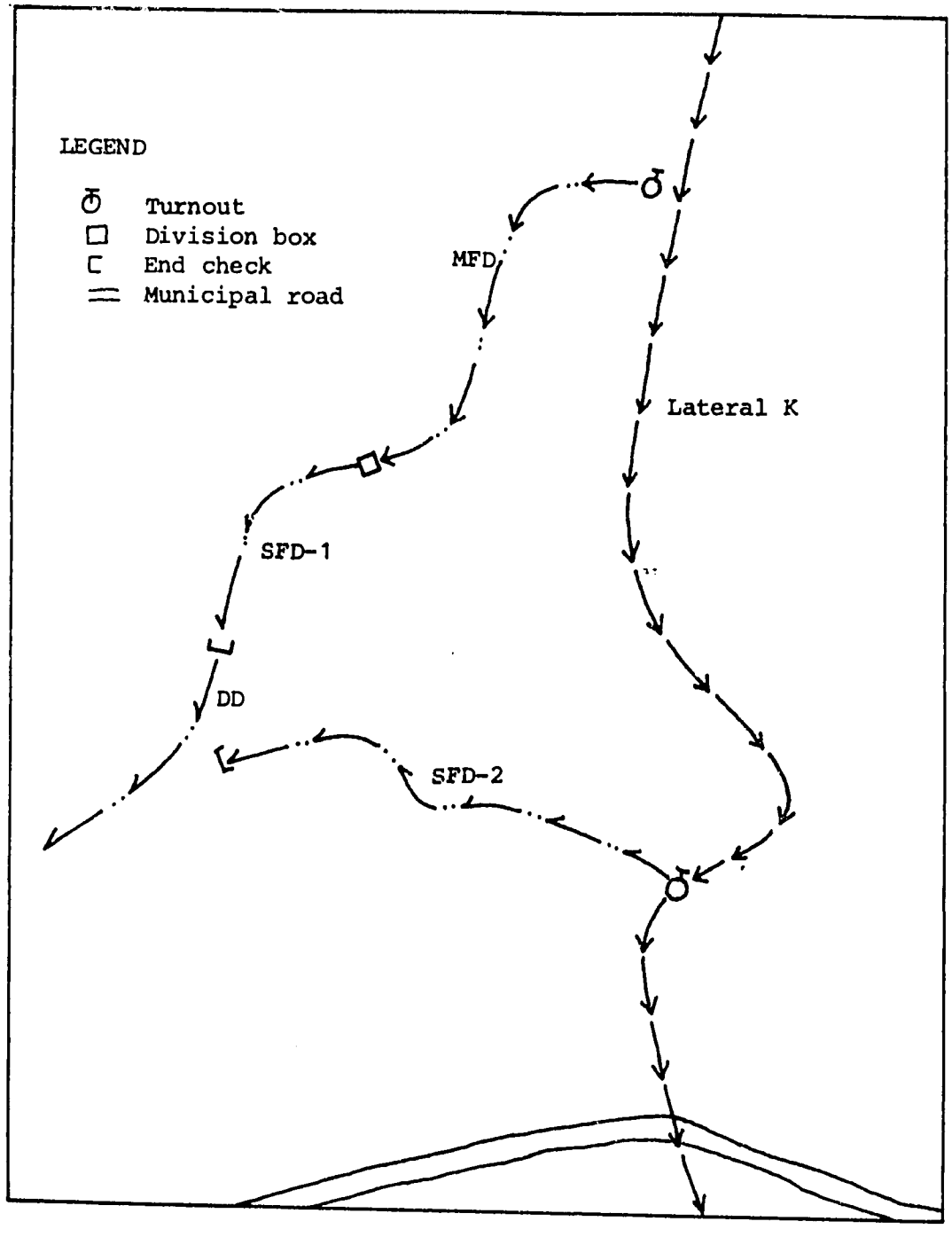

Figure 21. Farmers' proposed location of terminal facilities for RALAT-K-6, Rinconada/Buhi-Lalo project

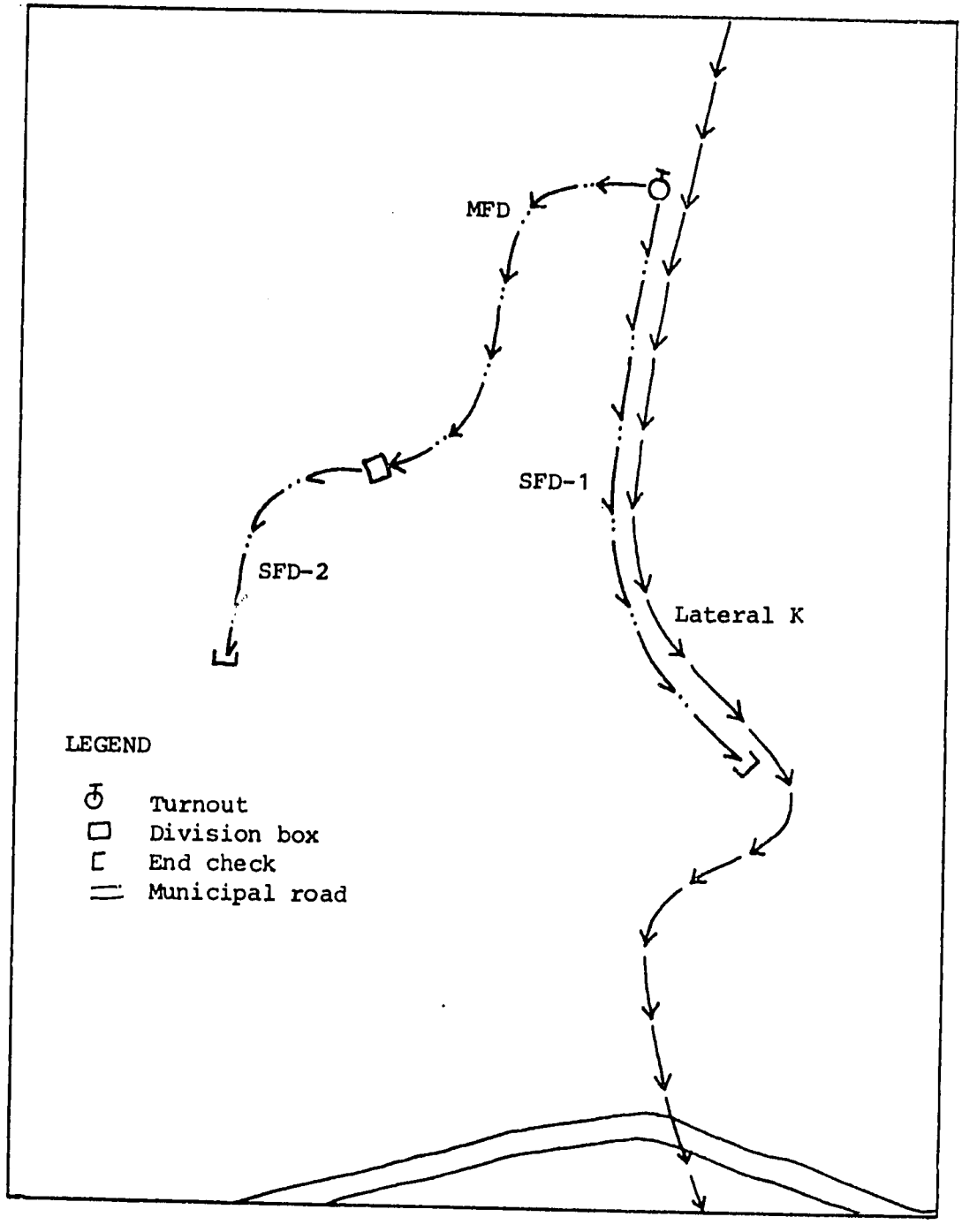

Figure 22. Final location of terminal facilities in RALAT-K-6 as identified by TB-farmer survey team, Rinconada/Buhi-Lalo project

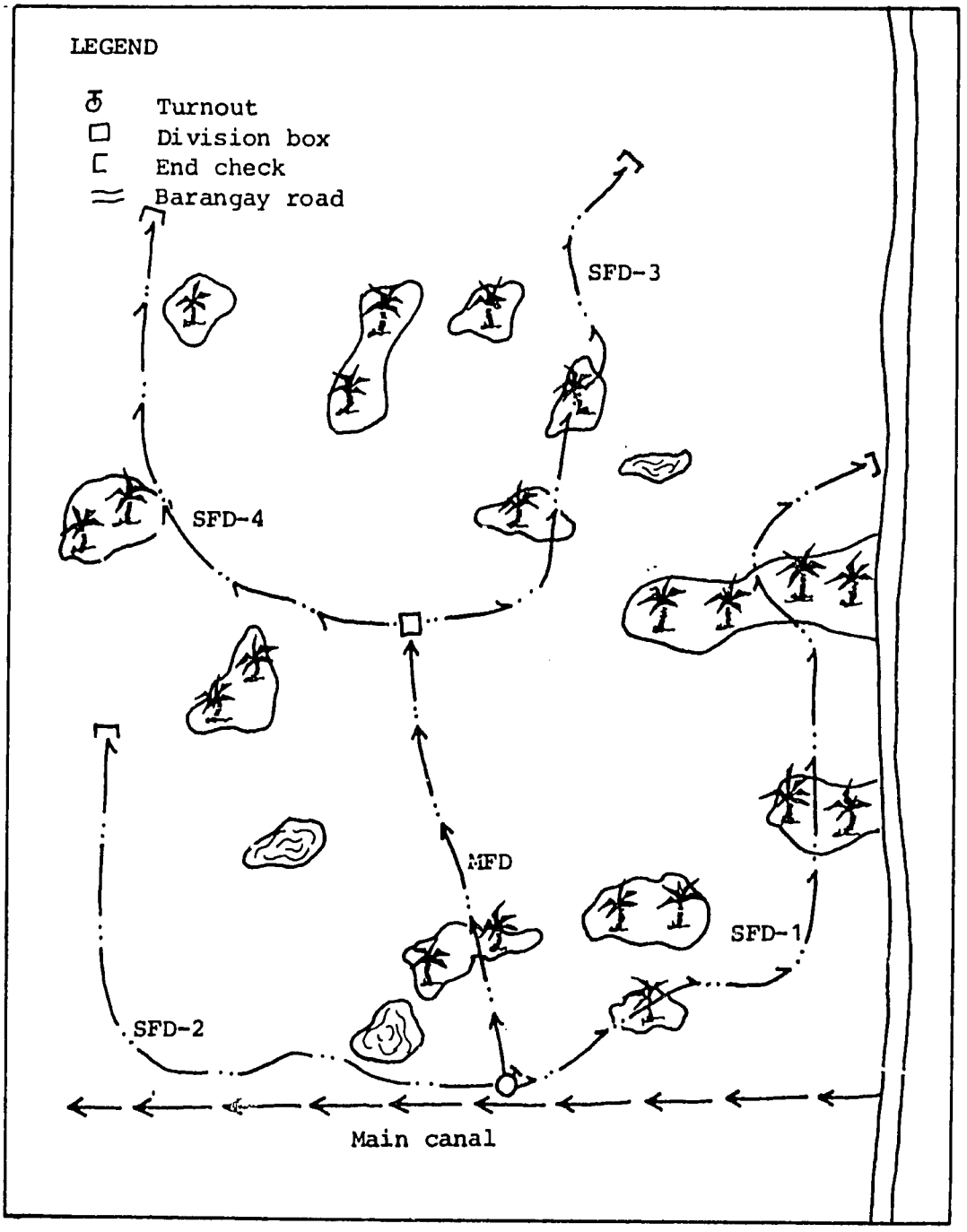

Figure 23. Final location of terminal facilities in RAMC-19 as identified by TS-farmer survey team, Rinconada/Buhi-Lalo project

as many farmers as that suggested by their map; and TS continued the survey even if only a few farmers went with them. On the other hand, some farmers present during the meeting said that they should not meddle with the survey as TS knew best. In response to this, COs and farmer-leaders stressed that farmers should participate in the delineation of canal and ditch lines. (A resurvey of Lateral N was subsequently done. This survey confirmed the route earlier taken by TS. In RALAT-N-1, the TS-defined route was finally accepted because it would serve a larger area. In RALAT-N-2, a landowner acceded to TS plan to cut the lateral before a hill to avoid excavation.)

2. Farmers in a former Zone III-B area (RAMC-SP-4) were told in early October 1981 that their farms could not be served by either the main canal or by Lateral M. Specifically, the survey results indicated that constructing the section of Lateral M where RAMC-SP-4 would draw water was not feasible since the natural ground was higher by 4.2 meters than the water surface elevation. The farmers were concerned that this might mean that the area would have to be omitted from the project unless an alternative route was found. On 23 October, the leaders agreed to coordinate with Zone IV-B RALAT-M-1 and RALAT-M-2 leaders in connection with the "phasing out" of RAMC-SP-4. On 8 November, a joint farmers' meeting for RAMC-SP-4, RALAT-M-1, and RALAT-M-2 took place. In this meeting, a design section assistant and the survey section head, who were invited to the meeting, told the farmers that RAMC-SP-4 would be eliminated because it was not technically feasible to irrigate it; however, RALAT-M-1 and RALAT-M-2 farmers had no cause to worry as they would not be affected by the elimination of RAMC-SP-4.

To prevent the elimination of RAMC-SP-4 from the project area, the farmers proposed the following alternatives: (1) NIA provide pumps to farmers whose lands were located on high grounds; (2) NIA reroute the proposed Lateral M; or (3) NIA elevate a portion of the main canal in RAMC-17 so that water could reach the RAMC-SP-4 area. In response, the survey section head and the design section assistant took turns in explaining that: they could not promise that NIA would provide the proposed irrigation pump; the proposed Lateral M could not be rerouted because the canal was already close to the main canal; and elevating a portion of the main canal

in RAMC-17 was neither technically nor economically feasible. After these explanations, the farmers of RAMC-SP-4 lamented the fact that their efforts had been wasted.

3. In RALAT-X-2, leaders had not understood that they had to indicate secondary farm ditches on their spot map. They learned of this need on 19 March 1982 when they discussed the survey results. Because the survey team would only investigate ditch lines after farmers had prepared their proposed routes, the leaders held a walk-through four days after the meeting; they identified a supplementary ditch parallel to the main farm ditch (which was confirmed by the technical survey team). After confirming the suggested SFD line during their 26 March 1982 meeting, the farmers decided to request another survey of the area four days hence.

After the technical survey team had finalized the location of canals, ditches, and canal or ditch structures in a rotational area, it then turned over the survey data to the design section for the preparation of the final design of the area's system facilities.

Negotiating for rights of way

Farmers in the documentation zones participated in right-of-way negotiations for land to be used by the service or access road, the lateral canal, and the main and supplementary farm ditches.[79] For land needed for the road and the lateral canals, both the farmers and members of the project's ROW section worked on obtaining ROW. But for lands needed for main and supplementary farm ditches, ROW negotiations were undertaken exclusively by the farmers and consequently were done independently of the road and lateral negotiations. Farmers prepared for their involvement in ROW negotiations by creating a ROW committee in their rotational area.

ROW negotiations for access roads and lateral canals. During informal conversations and planning sessions with leaders, COs

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[79] ROW negotiations for the site of the water management technologist's working station in Salvacion, Iriga City was undertaken by the project's ROW section personnel.

continually reviewed project activities, one of which involved ROW negotiations with landowners whose properties would be traversed by a proposed road or lateral canal. For these facilities, leaders were told that project's ROW section assistants would also conduct ROW negotiations with affected landowners. However, it was not initially made clear how the work would be divided between the farmer-negotiators and the NIA assistants. Thus although the leaders readily accepted the responsibility of seeking ROW, they were subsequently peeved when they discovered that a personnel of the project's ROW section was meeting with landowners with whom they had already initiated ROW negotiations. Moreover, the leaders considered the presence of the NIA personnel in their area as undermining their efforts because a number of landowners preferred to discuss ROW matters with an "official" negotiator (that is, the ROW section personnel) than with them. This problem was mitigated when a NIA staff member began to coordinate his activities with the farmer-negotiators. Nonetheless, because some landowners refused to negotiate unless with NIA personnel, the latter was generally more successful in his attempts than the leaders.

Before the farmer-negotiators (usually the overall area chairman, the farmers' ROW committee members, and other leaders) began ROW negotiations for the service road and lateral canal, they were provided by the project office with ROW forms which they would present to landowners for the latter's signature. When Zone III-B leaders undertook ROW negotiations for the access road in August and September 1981, they met with landowners in groups of two to four. The leaders explained the purpose of their visit (which was to secure the landowner's signature on the ROW form), the amount of land which would be needed by the road (based on the data provided by the project office), and the requirements which the landowner would have to accomplish before he could claim payment for ROW damages. Where leaders assessed a particular landowner to be a potential problem, the farmer-negotiators sought the assistance of the owner's tenant(s) and/or of other individuals who they acknowledged to have some influence on the landowner.

When leaders in the documentation zones were mobilized to assist in ROW negotiations for Lateral K (in Zone III-B) and for the access road (in IV-A) beginning January 1982, leaders from several rotational areas convened to coordinate their negotiation efforts. Moreover, the leaders of the two zones selected their respective ROW coordinators. In Zone III-B, the elected ROW negotiator was RALAT-K-5 secretary; in Zone IV-A, the acting RALAT-L-4

overall chairman.[80] In the course of their involvement in ROW negotiations, the leaders met with a few problems. An example of a ROW problem encountered in Zone III-B and its resolution is as follows.

> When farmer-negotiators met with a RALAT-K-2 landowner to secure his approval on the widening of a section of Lateral K on his land, this landowner proposed that the existing lateral canal section on his land be filled up so he could cultivate the land, and the canal be rerouted to his adjoining coconut land. He refused to grant ROW for the widening of the canal because he feared that it might take another three meters of his riceland. He took this position for about a month, during which time his tenants persisted in urging him to sign the ROW document. The landowner was finally persuaded by his tenants to sign the ROW form for the widening of the Lateral K section on his riceland.

By end of March 1982, ROW negotiations for lands affected by the access road to be built along the main canal in Zone III-B were completed. In fact, the road construction was concluded during the month. Meanwhile, ROW negotiations for Lateral K and for the access road to be constructed along Laterals K and L had not been completed by the end of the research in March 1982.

ROW negotiations for terminal facilities. Farmers initiated their ROW negotiations for main and supplementary farm ditches soon after they completed their first walk-throughs to delineate possible canal and ditch lines. These ROW negotiation attempts, however, were geared basically toward assessing potential problem landowners. Actual negotiations took place after the leaders' paper location of canal and ditch lines had been confirmed by

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[80]For the period 16 March 1982 to 15 April 1982, these coordinators would be paid by NIA an "incentive" amounting to ₱14.94 per day, or a maximum incentive of ₱329 (corresponding to 22 working days). The amount would be shared by the coordinator with farmers who have successfully negotiated ROW for the lateral canal and access road. The amount paid to farmer-negotiators would cover any transportation expenses they might have incurred during their ROW negotiations.

members of the rotational area.[81] The ROW committees negotiated with landowners affected by the proposed farm ditches within the second to the fourth month after their formation; in a few areas, however, these committees began work seven months after their creation (for details, see Table A32). The delay in the initiation of ROW negotiations for farm ditches basically resulted from the delay in the finalization of the farmers' spot map and paper location of canal and ditch lines.

Decisions on when actual ROW negotiations for terminal facilities should commence were often made during leaders' planning sessions and/or farmers' meetings.[82] In the case of three Zone IV-A areas (RALAT-L-6, RALAT-L-7, and RALAT-L-8), farmers agreed in March 1982 to defer ROW negotiations until after the release of the final designs by the project office.

The farmers' ROW negotiation team was usually composed of the area chairman (and vice-chairman, if one was elected), and the head and members of the ROW committee.[83] Each of these leaders volunteered to meet with specific landowners; they then negotiated for the land needed by the farm ditches either individually or by pairs. The ROW negotiators normally visited the landowners concerned at the latter's home. But where the owner resides outside the community (that is, in the city or town center), the leaders usually informed the landowner's tenant(s) that part of

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[81]In a number of areas (such as RALAT-K-4 and RALAT-K-7), farmers agreed to conduct ROW negotiations for the terminal facilities before inviting the project's survey team to undertake location of lines in their respective areas.

[82]In RALAT-K-2, farmers also decided to hold tenants responsible for negotiating with their respective landowners for ROW.

[83]In two Zone III-B areas, however, ROW negotiations were initiated by leaders other than those sitting in the committee. In RALAT-K-4, the spot-map committee chairman was most active after the ROW chairman begged off owing to his old age and the committee members claimed to be preoccupied with farm work. In RALAT-K-5, the area secretary initiated the ROW negotiations because he had more time to spare than the ROW committee members.

the owner's land would be needed for a farm ditch, and the leaders urged the tenants to persuade their landowner to grant ROW. In cases of owner-cultivators who lived elsewhere, the leaders either requested one of them to meet with the owner at his residence or they waited for the owner-cultivator to work in his ricefields. While written ROW permits were secured for the access road and lateral canals, the ROW negotiators settled for a verbal permission from the landowners to have a ditch constructed on their farm.

Generally, landowners gave their consent to have a ditch constructed on their property; however, many preferred that a ditch be located along a side of their farm rather than have a ditch cross it. Three examples of problems encountered by the ROW negotiators are as follows.

1. In January 1982, a widow in RALAT-L-1 allowed the survey team to conduct a survey on her land but objected to the construction of the proposed main farm ditch on her farm. She explained that an inoperable main canal already traversed her property, and she expected the proposed service road (which would be built along the main canal) to cross her land, too. She added that the construction of the MFD on her land would further reduce her farm lot which is her only source of income. When farmer-negotiators approached her in February, she suggested the rerouting of the MFD. In March, the farmer-leaders and TS had found an alternative route which would avoid the widow's land.

2. During the ROW campaign in RAMC-18, a share tenant (AB) granted verbal ROW permission but refused to sign any ROW form. It appeared that when the ROW committee chairman presented the form for AB's signature, the leader inadvertently indicated that a lateral canal, instead of the proposed supplementary farm ditch, would traverse AB's land. Consequently, AB became suspicious and did not want to sign the form presented by the leader. Moreover, AB's landlord apparently wanted to inspect the contents of the ROW form and to meet with a NIA ROW personnel before any ROW was granted on his land. This problem was resolved two months later, at which time a ROW section assistant had negotiated with AB's landowner and the latter had finally signed the ROW form.

3. Another RAMC-18 farmer refused to sign the ROW form because he claimed that the proposed supplementary farm ditch which was planned to cross his land would cut off the flow of excess water from the upper portion of his farm. Thus this (upper) portion could be flooded because excess water would converge in that area. He, therefore, suggested (to the ROW committee chairman) that the proposed ditch be relocated closer to the lower edge of his rice farm. His proposal was brought to the attention of the zone engineer the following month. The engineer promised to have the survey team identify an alternative route. By end of March 1982, a survey had yet to be undertaken for this purpose.

Conducting other pre-construction activities

Beginning December 1981, COs and Zone IV-A farmer-leaders discussed activities which farmers could undertake after the spot map had been prepared and a survey of the area had been held. In Zone III-B, COs began mobilizing farmer-leaders to plan for post-survey, preconstruction activities in March 1982. In this connection, COs and leaders agreed to take the farmers to Upper Lalo to acquaint them with various irrigation facilities and to help them determine the system facilities which they could construct themselves when Lower Lalo moves to the construction phase. Moreover, Zone IV-A COs and leaders decided to initiate manpower inventory in preparation for construction.

Subsequently, leaders convened farmers in their respective areas to discuss the prospective field trip and the conduct of a manpower inventory in the area. During the meeting, the farmers agreed to draft a letter requesting the project office for a vehicle to ferry them from their area to Upper Lalo and back. The letter was delivered to the project office by the overall chairman. The schedule of the field trip and the availability of a vehicle was subsequently confirmed by the chief of the farmers' assistance division.

Of the six rotational areas in the documentation zones which planned a trip to Upper Lalo, four (in Zone IV-A) undertook the trip (see Table A33). Between 27 and 65 farmers joined the field trip. NIA provided a bus which transported the farmers from their community of residence to Upper Lalo and back. (In one instance, the field trip participants were originally scheduled to leave for

Upper Lalo in the morning but transportation problems delayed their departure until the afternoon.)

The farmers also visited the National Power Corporation's forebay dam in Upper Lalo. Moreover, they inspected flumes, footbridges, and terminal facilities found in one of the three Upper Lalo zones. The zone engineer briefed the farmers on the functions of the various irrigation facilities visited. When some field-trip participants were interviewed after the trip, they speculated that, given the status of construction in Upper Lalo, it would not be long before construction work would start in Lower Lalo.

As an offshoot of the farmers' field trips to Upper Lalo, farmer-leaders in two Zone IV-A areas started manpower inventory in their respective areas in February 1982. In one area (RALAT-L-2), the activity was completed in the same month. The inventory was undertaken by the area's overall chairman and the spot-map committee chairman.[84] They conducted house-to-house visits and interviewed adult male family members about their work experience outside rice-farming. By end of February 1982, they had listed 12 masons, 5 carpenters, and 5 laborers.

Summary of Project Activities

The research in Lower Lalo, which covered the period from January 1981 to March 1982, witnessed farmers, COs, and TS undertaking various tasks in preparation for construction of irrigation facilities in the two documentation zones. Preconstruction activities had been categorized into organizing and technical tasks. As in Upper Lalo, organizing efforts began with COs' integration with the communities in their assigned zones. CO's work was aimed at accomplishing two things: mobilizing farmers for participation in technical activities, and organizing farmers at the rotational-area level and eventually forming farmers in a zone into irrigators' associations.

Farmers in the two Lower Lalo documentation zones undertook the following preconstruction technical tasks: preparing their (farmers') own paper location of terminal facilities; negotiating

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[84]The membership committee was originally assigned to the task but its members begged off, stating that they did not fully understand the activity.

with TS on the final location of canals, ditches, and canal structures (beginning March 1981); obtaining rights of way for the canal and ditch routes (starting August 1981) which they had identified in consultation with TS; surveying and staking out ditch lines (from June 1981); receiving orientation on irrigation facilities; and in some areas, conducting manpower inventory (beginning December 1981). These activities were initiated in different areas at different times. Thus, by March 1982, farmers in a few areas had yet to conclude all these preconstruction activities.

When the documentation research period ended in March 1982, farmers were poised to engage in construction. Having played an active role in determining the canal and ditch network in their respective rotational areas, farmers expected to have a hand in constructing these facilities. Their activities during the past 15 months, therefore, served as the first of several stages of irrigation system development leading toward the construction of an irrigation system which farmers could be interested in operating and maintaining.

IV. COORDINATION AMONG THE PROJECT STAFF

The implementation of the participatory approach in the Buhi-Lalo project required coordination between and among the project's organizing and technical staffs. Their coordination efforts occurred both in the field and in the project office. This chapter discusses the coordination activities which took place from December 1980 to March 1982 between COs and TS and among COs themselves.

Coordination between COs and TS

COs and TS coordinated their tasks informally in the field or during formal sessions convened by the project management. Their informal coordination, particularly between COs and ZEs, took place while they were at work or at home. Their formal coordination sessions, in turn, took the form of seminar-workshops and monthly meetings.

Coordination in the field

The project office's instructions that COs and ZEs reside in their work area facilitated a close and immediate coordination of tasks. Their own decision to live in the same house (that is, board with a farmer's family as in the case of Zones I-A and I-B COs and ZEs) further afforded an opportunity for each to learn and understand the other's work.

Until mid-March 1981 (at which time construction activities in the area were resumed), Upper Lalo COs and ZEs concentrated their coordination on preparing farmers to undertake preconstruction meetings and activities like review of NIA's paper location of terminal facilities, walk-throughs, and right-of-way negotiations.[85] In

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[85]As explained earlier, construction activities in Upper Lalo began in May 1980; these were suspended between January and March 1981 to enable COs to prepare farmers for involvement in the design and construction of farm ditches and other terminal facilities.

Lower Lalo, beginning June 1981 until end of March 1982, COs and ZEs began to prepare farmers for preconstruction activities such as walk-throughs, right-of-way negotiations, surveys, and TS-farmer conferences on canal and ditch locations.

In Upper Lalo as in Lower Lalo, ZEs often accompanied COs as they conducted groundwork meetings with farmers on activities preparatory to construction. During farmers' meetings, ZEs and COs took turns explaining the Buhi-Lalo project, the importance of farmers' participation in the project, the TS' paper location of canals and ditches, and the specific requirements for construction. Since COs and ZEs were often together, they could easily plan and assess the field needs jointly. During such a session, COs provided background information on conditions affecting the farmers (such as farm work, problems encountered in ROW negotiations, and preferences for canal or ditch lines). In turn, ZEs provided office-derived and technical information pertaining to preconstruction work (like need for additional survey data for design revisions and pay arrangements for ROW damages). COs referred to ZEs technical problems which were encountered by farmers (for example, proposed rerouting of a surveyed canal or ditch line).

When construction resumed in Upper Lalo in March 1981, Upper Lalo COs and ZEs continued to coordinate their respective tasks, although not as frequently as in earlier months because of diverging work thrusts. While ZEs became busily engaged in the day-to-day supervision of ongoing construction activities, COs attended to organizing new groups of farmers and/or preparing farmers for construction in their own areas. Halfway through the construction phase, COs assisted farmers in preparing the terms and conditions for farmers' takeover of partial system operation and maintenance, and in organizing themselves into irrigators' associations. Despite their individual preoccupations, COs and ZEs still conferred on schedules of preconstruction, construction, and postconstruction tasks, as well as on the need and kind of follow-up work required of each of them.

With the phase out of construction activities in Upper Lalo in early 1982, coordination needs between COs and ZEs diminished markedly. Moreover, in February 1982 each Upper Lalo ZE was assigned to cover one or two Lower Lalo zones for two days a week and attended to his Upper Lalo zone assignment for the remaining three days. By this time, too, COs were heavily involved in assisting the newly-organized irrigators' associations prepare the requirements for their respective registration with the Securities and Exchange Commission, finalize their terms and conditions for

assuming partial system operation and maintenance responsibilities, and undertake organizational activities.

Apart from holding their respective informal coordination sessions, COs and ZEs synchronized their work with other TS. Thus if the presence of other TS was necessary in an activity, for example, attendance of surveyors in a walk-through, either COs or ZEs made arrangements with them. If they needed advice or information that could not be derived from each other, they sought these from whoever was knowledgeable in the project office.

Seminar-workshops

Between December 1980 and March 1982, COs and TS held two seminar-workshops at the NIA regional training center in La Trinidad, Iriga City. The first took place on 14-17 December 1980. During this workshop, COs and TS prepared separate institutional and technical work programs for implementation in 1981. They then integrated and finalized these work programs.

The second was a staff development program workshop that was conducted on 25-27 February 1981. It aimed to provide both COs and TS a better understanding of the concepts and skills of community organizing thereby helping COs to perform better in the field and TS to appreciate COs' work and coordinate better with them. The program consisted of six training modules, namely: (1) the participants' learning objectives, (2) community organization, (3) the change agent, (4) small group organizing, (5) community leadership development, and (6) grassroots organizing, analyses of cases, and dynamics of group discussions. (The activities and issues discussed in each module appear in detail in the Upper Lalo monthly documentation report no. 2.) In conducting the program, the facilitators (the two institutional development consultants, who were assisted by the Upper Lalo COs' supervisor) employed a combination of strategies: lectures, small group discussions and reports, plenary discussions, individual questionnaire, case study analyses, and reading handouts.

Monthly coordination meetings

From January 1981 to March 1982, 19 TS-CO coordination meetings took place. Of these, 8 were convened for Upper and Lower Lalo COs and ZEs; 8, exclusively for Upper Lalo COs and ZEs; and 3,

exclusively for Lower Lalo COs and ZEs (for details, see Table 9).[86] Apart from the field staff, the different division (that is, construction, engineering, and farmers' assistance) chiefs and various section heads of these divisions attended the coordination meetings. Except on one or two occasions, the project manager presided over the sessions.

The coordination meetings covered issues and/or problems related to design, survey, right of way, construction, and system management and fee collection. These sessions also discussed administrative matters like forms to fill out, field reassignments, work leaves, and request for motorcycles for ZEs and other field personnel. While COs and TS of both Upper Lalo and Lower Lalo shared common general concerns, Upper Lalo and Lower Lalo field personnel brought out varying specific issues. These differences basically stemmed from the level of development efforts and type of project activities then being undertaken in Upper Lalo and in Lower Lalo.

Some of the major topics discussed during the coordination meetings are as follows.

Design. In connection with farmers' input in designing the system, the engineering division (particularly the design section) personnel coordinated with both ZEs and COs concerning canal and ditch lines proposed by farmers. In July 1981, the design section head asked Lower Lalo COs to provide his section with farmers' spot maps to guide them in the preparation of final canal and ditch designs.

To facilitate design revisions for Upper Lalo, the engineering division chief requested in March 1981 more specific guidelines for treating revisions suggested by Upper Lalo farmers. He complained that ZEs and COs orally informed his design personnel about farmers' suggested revisions. A number of these reports were vague, hence, the design staff could not respond effectively to farmers' proposals. He, therefore, insisted that a written report on requests for revisions be prepared. This report should include the

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[86] During the first four months of the documentation research period, TS-CO coordination meetings were limited to Upper Lalo because ZEs were assigned to some zones of the Lower Lalo area only in May 1981.

Table 9. Selected information on TS-CO coordination meetings in the Buhi-Lalo project: March 1981 to March 1982

Month	No. of sessions	COs and ZEs involved[a]
March 1981	2	Upper Lalo
April	1	Upper Lalo
May	2	Upper Lalo (1)[b], Lower Lalo (1)
June	2	Upper Lalo (1), Lower Lalo (1)
July	1	Upper and Lower Lalo
August	3	Upper Lalo
September	1	Upper and Lower Lalo
October	1	Upper and Lower Lalo
November	1	Upper Lalo
December	-	-
January 1982	2	Upper and Lower Lalo
February	-	-
March	3	Upper and Lower Lalo (2), Lower Lalo (1)

[a]Apart from these field personnel, the project manager, division chiefs and section heads often attended the CO-TS coordination session.

[b]The figures in parentheses pertain to the number of sessions held exclusively for COs and TS assigned in Upper Lalo or in Lower Lalo.

reasons for the requests as well as other supporting data. In response to the chief's complaint, the following procedures were articulated in the same month. (These procedures were also immediately adopted.)

1. ZEs should submit to the engineering division chief a list of the farmers' proposed revisions, corresponding reasons, and their (ZEs') opinion on the farmers'

suggestions. To speed up the process of revising the terminal facilities in such area, ZEs would also indicate on the layout map of the rotational area the revisions suggested by farmers.

2. If members of the design staff find the suggested revisions reasonable, the engineering chief would advise the survey staff to undertake a resurvey of the affected area or, if the designs could be changed without a resurvey, he would direct the design staff to proceed with revising the designs;

3. ZEs may, from time to time, inquire from the engineering division on the status of the requested revisions; and

4. When the revised design (and cost estimates) for terminal facilities become available, ZEs should refer them to farmers for the latter's confirmation and to enable farmers to prepare for construction.

As regards the work of the design section on Lower Lalo, TS and COs discussed the following problems.

1. Difficulties of ascertaining the measurements of existing canals and canal structures. In September, a design section assistant reported that canal structures in Lower Lalo appeared to be very small. However, the design staff could not take dimension measurements because the structures were covered with soil. Consequently, the design staff could not determine the extent by which the structures would be expanded. The design section head then asked the construction division to assist them in measuring the earth-covered structures. The project manager asked the design head to submit his estimate of the manpower and time requirements of the activity. The construction division chief, however, advised the design staff to refer to the old plans (that is, the plans for the existing structures) for the structures' measurements.

2. Progress of design preparation. In October, the design section head said that the design for the 13-kilometer new main canal had been completed but design of turnouts had to wait until after walk-throughs had been conducted. Moreover, design of lateral canals would start only in November because his staff had been previously occupied with the finalization of plans and designs for Upper Lalo.

> On 26 November, the design section head disclosed that his staff was behind schedule by almost 10 months. He proposed that COs accelerate their organizing work particularly at the lateral level (that is, preparing farmers for participation in walk-throughs and/or survey) to enable the design staff to move on. COs countered that the "participative principle" should not be sacrificed for speed, and that their own progress had been deterred by the size of their zone assignment. It was finally agreed that Zone IV-B CO would be assisted by two COs who were assigned to upstream Lower Lalo zones; by working together, COs expected that farmers to be served by Lateral M could be organized by 15 December. The project manager announced that if this scheme succeeded, it would be replicated in the remaining downstream zones (V-A, V-B, and VI-A). (The scheme, however, was never implemented in other zones.)

Survey. To synchronize technical and institutional activities, COs and TS generally discussed the schedule of survey work to be undertaken in Upper Lalo and in Lower Lalo. The engineering division staff stressed that finalization of designs depended on the results of survey activities in particular rotational areas. Meanwhile, survey, particularly in Lower Lalo, would commence after farmers had confirmed their suggested canal and/or ditch lines in walk-throughs although traverse, profile, and cross-sections could be undertaken in lateral canals prior to farmers' walk-throughs.

The following issues and/or problems emerged during the coordination meetings.

1. Errors in survey works. In September, the construction division chief pointed out that the survey team, particularly those involved in leveling, did not conduct adequate "checking back" of survey data. He cited the canal lining of the left connector canal as a case in point. In response, the survey section head explained that these errors were due to defective instruments. The project manager then remarked that defective instruments should not be made an excuse because surveyors must be able to detect defects in the instruments and act accordingly. He referred the survey team to a handbook on testing instruments, and advised the surveyors to avoid such errors in the future.

2. Need for additional surveyors. In May, Zone II-A ZE asked that an additional survey team be deployed in his area so that farmer-requested surveys could be undertaken immediately. The survey section head explained that his Upper Lalo survey teams were working to the hilt and other survey personnel had been fielded to Lower Lalo because of urgent demands there. The project manager then proposed that ZEs and farmers conduct some survey tasks since ZEs could handle the survey instruments themselves. Zone II-A ZE, however, said that ZEs in Upper Lalo were busy supervising construction activities.

To minimize the demand for survey teams in Upper Lalo, the project manager announced that accomplishment surveys of completed terminal facilities would be waived. Instead, ZEs would certify whether or not the farm ditches had been built according to design specifications. In this connection, he recommended two ways for ZEs to accomplish the required certification: ZEs walk the length of the ditch to inspect the quality of the completed job, and ZEs test-run the ditch to see if it were operational. ZEs' personal supervision of ditch construction could also help farmer-contractors ensure that the job is done properly. The project manager explained that replacing the accomplishment survey with the ZEs' written certification would also facilitate the early completion of construction activity and release of payment for construction laborers. (By October 1981, however, ZEs were too busy supervising construction works that the project office had to revert to the accomplishment surveys.)

In November, the Upper Lalo COs' supervisor remarked that the survey teams could not cope with the demand for survey works in Upper Lalo. The survey section head then replied that he would deploy more surveyors to reinforce the teams then working in Upper Lalo.

Right-of-way negotiations. To help the field personnel answer questions on payment for ROW damages and/or to assist farmer-negotiators, the project manager and the ROW section head provided the following guidelines.

1. Requirements to be fulfilled by ROW-payment claimants. In June, the ROW section head announced that ROW-payment claimants should accomplish the following requirements: a ROW agreement signed by NIA and the landowner concerned

and the landowner's tax declaration which should indicate all land improvements. In connection with the second requirement, the ROW section head informed COs and TS in September that a team from different municipality assessor's offices would visit the field every Friday and Saturday beginning the last week of September to assist the farmers in specifying in their tax declaration forms the improvements made on their lands.

2. Assistance to farmer-negotiators. In June, the project manager stated that if the farmers' ROW committees fail to convince landowners, the project's ROW section would try to secure the needed ROW agreement.

In March 1982, the project manager remarked that the new main canal in Lower Lalo should be constructed soonest to prevent excess water from overflowing during the wet season. The access road, he said, had to be completed before the start of canal construction. Zone IV-A CO-1 expressed concern over the staking of the access road while ROW negotiations for it had yet to be concluded. CO disclosed that farmer-negotiators encountered financial difficulties (especially when they had to meet with landowners residing in the poblacion). The project manager then decided to provide monetary incentives to farmers involved in ROW negotiations for lateral canals (for details, see section on negotiating for ROW). The financial incentive, however, would cover negotiations conducted between 16 March and 15 April 1982. Farmer-negotiators would have to submit the accomplished ROW forms to the project office before they could claim the incentive pay.

Construction. COs and TS discussed schedules and progress of construction (particularly in Upper Lalo), arrangements for farmers' participation in construction, and problems met during the construction phase in Upper Lalo and in the upstream zones of Lower Lalo.

To involve farmers in the construction phase, COs and TS considered the following points in various coordination sessions in 1981.

1. Spheres of farmers' participation. Farmers would be employed as laborers in the construction of planned structures. Construction of laterals, main and supplementary farm ditches would be contracted to farmers.

2. Type of contract to be drawn with farmers. In early 1981, the project office agreed to grant Upper Lalo farmers' groups takay (volume of work accomplishment) contract to construct lateral canals and farm ditches. To determine the contract cost estimate, TS suggested different computations for new canals and those that needed to be rehabilitated. The cross-section data obtained at two ends of the canal would suffice for computing the cost of rehabilitating an existing canal; for a new canal, the cross-section of every station (or every 20 meters) would have to be obtained. Takay payments were to be based on the profile taken of the canals. In reply to Upper Lalo COs' queries in May, TS said that farmers should be made to understand that (contrary to their assumption) they would be paid on the basis of actual work accomplished. The project manager added that farmers might be allowed to claim the full cost estimate for the canalization job as long as their accomplishment had been found satisfactory during the postconstruction survey or upon ZE's certification.

In June, the project manager announced that farmers' groups (that is, rotational-area not ditch groups) would be granted pacquiao (fixed-price) contracts to construct farm-level facilities. He explained that the shift to the pacquiao mode would avoid the problems arising from the takay contract (that is, delayed payment to laborers and possible legal repercussions resulting from the fact that takay laborers received wages lower than the daily minimum rate of ₱14.93), and would facilitate farmers' participation in bidding for construction labor. To mitigate the delayed-payment problem, he ruled that partial payments be made for every supplementary ditch completed, regardless of its relation to total contract price. (Previously, a partial payment was allowed only after 30 percent of the canalization contract had been done.)

In March 1982, the project manager (in response to a ZE's query) said that a contractor would not be allowed to obtain two contracts at the same time. The engineering division chief added that a pacquiao contract was limited to ₱50,000.

3. Participation in bidding for construction labor. On 26 June, the project manager declared that farmers would be

invited to participate in the bidding for price determination for construction labor. Farmers' bid ranging from 75 percent to 100 percent of the NIA cost estimate was considered as acceptable. On 11 August, Upper Lalo COs and TS confirmed their 30 July agreement that prices set during the bidding would be adopted in determining pacquiao contract cost. One month later, the construction division chief informed COs and TS that the prices to be adopted would be those which had been formally approved by the NIA regional office; these prices would then apply to both Upper and Lower Lalo. He also said that cost of construction of structures would likely increase in 1982 should there be a rise in the cost of living and of materials.

During the 25 September meeting, the Upper Lalo COs' supervisor complained that farmers were given short notice (three days instead of the allowed 10 days) before the rebidding for canal structures; thus, COs had little time to disseminate and discuss the matter with farmers. He surmised that this probably brought about the submission of low bids by farmers.

In March 1982, the chief of the engineering division remarked that COs should discuss prices with farmers when mobilizing them for bidding. He explained that this input would avoid the quotation of run-away prices during the bidding to determine price of construction labor in Lower Lalo.

In connection with farmers' participation in the construction phase, COs and TS discussed the following issues and/or problems.

1. Fluctuating supply of labor. In May, the construction chief asked Zone I-A ZE why construction in RAMC-2 commenced only at the main farm ditch when work should begin on all farm ditches at the same time. The ZE explained that because of insufficient manpower, simultaneous work on all ditches could not be adopted. (Moreover, farmers had agreed to construct one farm ditch at a time.)

   In September, the project manager said that both Upper Lalo ZEs and COs must know what remaining canalization and structure works were required in their respective zones; these works should have corresponding

cost and manpower requirement estimates. ZEs and COs responded that such an inventory (of remaining works) had been submitted to the project office. In other areas of a zone, however, canalization could not start until after the harvest (in October) because prospective farmer-workers were busy with farm work.

2. Lack of farmers' interest in contracting construction works. In one meeting in August, Upper Lalo COs and TS discussed the lack of farmers' interest in engaging in construction work. To enable the project office to assess whether or not construction schedules can be met, COs and ZEs were instructed in one meeting in November to mobilize farmers to officially confirm their unwillingness to enter into construction contract with NIA through a letter signed by the leaders and a majority of members of the rotational area. The project office would then undertake the remaining construction works by force account.

During the 11 January 1982 CO-TS meeting, Upper Lalo COs and ZEs were asked to list the rotational areas whose leaders were interested in contracting the construction of canal structures. For areas with leaders who did not show any interest, area leaders would be asked to submit names of farmers who would like to work as daily-wage laborers. If leaders refused to contract the construction work, or farmers refused to work as NIA-hired construction laborers, NIA would subsequently construct the structures by bringing in their own laborers.

3. Farmers' complaints over late payments for completed construction works. In early 1981, Upper Lalo COs informed TS about farmers' discontentment over the delays in the release of their (takay) wages. Subsequently, the project manager decided to change the contracting arrangement from takay to pacquiao. At the same time, attempts were made to facilitate the processing of payments for pacquiao contractors (for example, ZE's certification in lieu of the accomplishment survey). Despite these efforts, however, Upper Lalo COs were again reporting on farmers' complaints regarding delays in payments for completed ditch constructions during the 11 January 1982 meeting. COs contended that the delayed-payment problem had hampered their organizing work because farmers, who were discontented over the late-payment issue,

had shown increasing reluctance to participate in project activities. In this regard, the chief of the farmers' assistance division suggested discussing with the construction division the possibility of specifying the period within which farmers should be paid after the completion of a ditch construction (pacquiao) contract.

4. Desire of some Upper Lalo farmers to work in Lower Lalo construction. On 11 March 1982, Zone II-A CO-2 informed the project manager of the desire of RAMC-10 farmers (who had farms in Zone III-B) to participate in construction works in that zone. The project manager told the CO that priority in Zone III-B construction would be given to Zone III-B farmers since RAMC-10 farmers had been employed previously in construction works in Zone II-A. However, the manager explained that if the required manpower (150-200 man-days) were not met by Zone III-B farmers because of the latter's forthcoming farming activities, then RAMC-10 farmers might be given the chance to work. Zone III-B ZE then asked Zone II-A CO-2 to submit the list of available RAMC-10 farmer-laborers to the project office at the earliest possible date.

As regards scheduling of construction activities, particularly in Upper Lalo, the project management staff issued policy guidelines from time to time during the TS-CO coordination meetings. These guidelines include the following.

1. Committing areas for construction. During the April 1981 meeting, Upper Lalo COs and ZEs were asked to pledge for construction one rotational area per zone where farmers had been already informally organized. This was aimed to give more direction to and ensure steady accomplishments in both organizing and construction tasks. For committed areas, all designed terminal facilities were to be constructed simultaneously. While COs would prepare farmers for this work, ZEs would prepare the construction requirements. The project manager assured COs and ZEs that committed area would be given priority assistance. But he cautioned them from concentrating only on these areas. Because of the seasonality of labor availability in Upper Lalo, he said that construction could be made to coincide with every slack farming period and the construction timetable could extend until 1982. (After the April meeting, the project manager

continued to urge both COs and ZEs of Upper Lalo to observe the practice of committing areas for construction once previous commitments had been met.) On 30 October, however, he asked the ZEs to complete construction tasks in Upper Lalo in 1981 because 1982 would cover postconstruction tasks. He added that early completion of system rehabilitation would help the Philippine government get project cost reimbursement from the U.S. government under an existing loan agreement.

2. Excluding additional irrigable areas in the current development project. On 18 May, the project manager announced a new policy which excluded additional irrigable areas from the current Buhi-Lalo project. He explained that although past policy was to include these areas, it would be hardly possible to accommodate the identified 1000-hectare irrigable area without depleting the funds programed for 3300 hectares in the Buhi-Lalo project. For this reason, he was suspending planned construction work in the expansion areas. Nevertheless, he assured COs and TS that canals for these areas would be designed but their actual construction would be done only after construction was completed in the programed areas. On 26 June, he explained that a new area might be included in the present Buhi-Lalo project if its exclusion would affect an originally programed area.

3. Approving construction plans before implementation. During the 30 July meeting, the design section head informed COs and TS that construction plans would be considered as approved for implementation only if they carried the signature of specific project officials and the seal indicating "good for construction" which had been countersigned by the engineering division chief. He explained that this procedure would ensure that the construction team would implement the corrected or revised (that is, new) plans, and not the superseded (old) ones. He said that the guideline was drafted after the construction team erroneously used the old plans for a section of the left connector canal which resulted in the overcutting of this stretch of the canal. The construction division, he said, would be provided three copies of the approved construction plans; the cost and evaluation and the plans and programs sections would be given one copy each.

4. Preparing an inventory of remaining works in a zone. On 25 September, the project manager advised COs and TS of the necessity to have the inventory of remaining works in a zone properly signed by ZE, COs concerned, and the engineering division. Moreover, COs should obtain farmers' confirmation of the need for the proposed structures which were included in the inventory. In this connection, he instructed the design section to prepare a design layout of the structure planned for each rotational area. In response, a design section assistant said that his section would investigate whether or not the structures were needed before acknowledging the inventory.

Other matters. COs and TS also discussed the following aspects of project implementation.

1. Procedure for farmers' request of TS' presence in an activity. During the September meeting, the construction division chief said that farmers need not meet with the project manager because the latter had to attend to many things. The chief of the farmers' assistance division stated, however, that farmers come to the project office to deliver a letter addressed to the project manager requesting for TS' presence in a meeting or a walk-through. He also said that farmers usually met with him, not with the manager. (Although no definite guidelines were established during the meeting, subsequent events showed that farmers coursed their request through the farmers' assistance division chief.)

2. Guidelines for TS working in the field with farmers. In the same session, a design section assistant proposed that a TS-farmer meeting be held before a walk-through. He claimed to have observed that farmers seemed to dictate on the project design staff the canal lines because the latter had little knowledge of the area.[87]

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[87]Another design section assistant suggested that TS should give positive comments (that is, avoid double-edged remarks) during their meetings with the farmers. He also suggested that (1) COs should send a written communication to TS a week before a planned meeting to which TS is invited, (2) TS should avoid using technical language in discussions with farmers, and (3) TS should speak in the dialect as much as possible.

He therefore proposed that TS conduct an onsite inspection before meeting with the farmers. Meanwhile, the survey section head wanted TS to conduct lectures before a walk-through. He explained that farmers lacked knowledge on technical matters. He cited the case of a farmers' group which thought that there would be one turnout per supplementary farm ditch. Zone IV-A CO-1 commented that farmers should be given the chance to learn, grow, and develop; TS should not expect farmers to know everything at this stage.

Taking another view, the construction division chief argued that in areas with ZEs, farmers' plans for either a conference or a walk-through, or survey should be channeled through them. If they could not tackle the issues or problems raised by farmers, then this would be the time that the project office should be consulted.

In a related matter, the project manager announced that an orientation seminar for NIA field personnel (such as survey aides, ROW assistants) would be conducted the following week to brief them on the participatory approach, particularly on the matter of dealing with farmers and their suggestions.

3. Monitoring progress of project activities. In March 1981, project management introduced two new forms: one, to be prepared by the ZEs and the engineering division, involved listing the validated terminal facilities in a particular zone; the other, to be accomplished by COs for each ditch group, pertained to the list of validated farmers (for details, see Upper Lalo monthly documentation report no. 3). These forms would be accomplished weekly, and would be submitted every Monday of the following week.

On 11 August, COs and ZEs were asked to prepare a joint schedule of organizing and technical activities for the period August to December 1981. (COs and ZEs were periodically instructed to plan their activities for given time periods.) The project manager explained that this activity was needed to allow project management to closely monitor and evaluate their (COs' and ZEs') progress, and to ensure that certain tasks were completed before the end of 1981 to accommodate the following expectations: the project office should have expended ₱7.9M by end of 1981, postconstruction tasks should be

started in 1982, and partial system operation and maintenance responsibilities should be delegated to irrigators' associations by 1982. (The guidelines for the preparation of the joint schedule are presented in Upper Lalo monthly documentation report no. 8.)

During the 26 November meeting, the engineering division chief presented several charts and forms which would be used for monitoring progress of construction and controling project manpower, funds, and materials. These charts and forms were as follows: (a) status of ongoing construction of structures; (b) critical deployment analysis; (c) list of defective canal structures and irrigation facilities, and remedial measures to be taken; (d) daily manpower requirement per structure; and (e) a checklist of other information. These would be accomplished monthly beginning December.

4. Operations of the Lalo system. During several coordination sessions, Lalo River national irrigation system personnel discussed water distribution schemes and irrigation fee collection problems with other TS and COs. In this connection, COs were asked to help disseminate the proposed irrigation delivery schedule among the farmers and to assist the fee collectors in campaigning for increased service fee collections in their respective zones. Meanwhile, COs brought out farmers' requests for repairs to be done on canals, ditches, or structures in their areas. On 11 March 1982, for instance, Zone I-A CO-2 presented RAMC-2 farmers' request for the repair of the main farm ditch. The CO explained that the washout of the ditch had been causing water to overflow to the access road. The project manager replied that NIA laborers would install a grouted riprap on the ditch.

Coordination Among COs

COs working in the Buhi-Lalo project began coordinating their activities in December 1980. This took three forms: coordination among all COs during supervisory meetings held jointly for those assigned in Upper Lalo and in Lower Lalo, coordination among Lower Lalo or among Upper Lalo COs during their respective supervisory sessions, and coordination among COs assigned to the same zone.

Supervisory sessions

The types of COs' supervisory meetings which took place between December 1980 and March 1982 are summarized in Table 10. These sessions were conducted in varying fashion as follows: until February 1981, the supervisors (that is, institutional development consultants and the head of the irrigators' organization and training section) took turns presiding over the meeting; from March to June 1981, COs alternated in chairing the sessions; from July 1981 until end of March 1982, COs' supervisors presided over the meetings convened for COs of their respective areas while the farmers' assistance division chief chaired joint Upper Lalo and Lower Lalo COs' meetings.

COs usually discussed the following: (1) progress of organizing work and problems encountered in the field; (2) projections, directions, or targets for the following month(s); and (3) administrative matters.[88] The following illustrate the type of issues and/or problems tackled during the formal supervisory sessions.

1. Organizing work. In their first meeting in January 1981, COs were instructed to devote 60 percent of their time to conducting groundwork; 30 percent, to developing farmer-leaders; and 10 percent, to generating activities.

2. Organizing strategy. To enable farmers to participate in the design and construction of the system, Lower Lalo COs were instructed in January 1981 to conduct small-group meetings and to start their organizing work with small groups of farmers covered by their zone assignment. When the TS' paper location for the three upstream zones of Lower Lalo (III-A, III-B, and IV-A)

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[88]By mid-April 1981, the research team stopped documenting supervisory sessions because the participant-observers were often not advised about them. In a meeting with project management in May, it was decided that the participant-observers need not sit in these meetings and the research team would be furnished a copy of the minutes before the end of the month. Minutes of the meetings, however, were provided to the research team only until July 1981, after which the participant-observers relied mainly on interviews with attendees.

Table 10. Supervisory sessions held in the Buhi-Lalo project: January 1981 to March 1982

Month	No. of sessions convened for			Total no. of sessions
	Upper Lalo	Lower Lalo	Upper and Lower Lalo	
January 1981	-	1	-	1
February	4	1	-	5
March	-	2	2	4
April	1	3	-	4
May	3	-	1	4
June	-	1	1	2
July	2	2	-	4
August	1	1	-	2
September	1	1	1	3
October	1	1	-	2
November	-	1	-	1
December	-	1	-	1
January 1982	1	1	-	2
February	-	2	-	2
March	-	2	-	2

were released in late March, the supervisors told COs to start organizing (and mobilizing) farmers first on the supplementary farm ditch (SFD) level, and later on, the main farm ditch (MFD) level. Zone-level organization and mobilization was slated for November. COs should, therefore, build farmers' groups from the bottom up. Similarly, committees should be formed not only at a high level (for instance, MFD) but at the SFD level as well. Farmers covered by a particular MFD should be made to realize through groundwork that committees should be formed at that particular level.

3. Spread of groundwork. When a Lower Lalo CO reported in March 1981 that she had expanded the coverage of her organizing work to six farmers' groups, other (Lower Lalo) COs cautioned her against spreading too thinly. A supervisor advised COs not to leave a group until its members have specific tasks to do; otherwise, the impact of the initial groundwork would be lost. Leaving a group sooner than necessary could render the group weak.

4. Delineation of zone boundaries. In January and February 1981, Lower Lalo COs raised the problem of identifying areas where they could conduct organizing work because zone boundaries had been difficult to establish. Their supervisors assured them that erratic boundaries would be corrected after the presentation of the TS' paper location. In Zone VI-B, the problem persisted until June because some areas appeared to be part of an adjoining national system. (In July, the project manager confirmed the boundaries identified by the engineering division.)

5. Sharing project information. In March 1981, Zone III-B CO-1 opened the meeting with a remark that COs had received considerable amount of organizing inputs but very little by way of technical data. COs should compare their information on technical issues to avoid imparting conflicting information to farmers. One CO cited an instance when a farmer commented on diverging data heard from different COs. Ensuing discussion on strategies for handling technical questions revealed that COs as a group refrained from giving definite answers to such queries.

6. Manpower adjustments. In late February 1981, the probability of finding new COs in Upper Lalo was considered owing to two reasons: (a) the student COs were due to depart in mid-March, leaving some regular COs to cope with large zone membership of over 250 farmers; and (b) these regular COs were concerned that such a situation might pose difficulties in meeting the midvear goal of having lateral or main-canal organizations. But it was decided that COs' workload and performance would be assessed first before this was acted upon. (After the student COs' departure, the Upper Lalo COs were informed of a plan to temporarily assign some Lower Lalo COs to their area from April to June 1981. The plan would allow massive organizing work to take place in Upper Lalo.

Arrangements to carry it out were then made in late March: Upper Lalo COs requiring assistance were identified and Lower Lalo COs whose assigned areas did not have paper locations yet were selected.) In the 30 March 1981 supervisory session, the three Upper Lalo COs (from Zones I-A, II-A, and II-C), who requested additional manpower briefed the five Lower Lalo COs on the current status of organizing work in their respective zones. Lower Lalo COs were subsequently assigned to rotational areas where intensive organizing work had yet to be undertaken. (In July 1981, two of the five Lower Lalo COs temporarily assigned to Upper Lalo areas were permanently appointed to Upper Lalo; the remaining three returned to their Lower Lalo assignments.)

7. Calling zone-level meeting. When a Zone II-C CO reported in April 1981 that 60 farmers from the zone's six rotational areas held a joint preconstruction meeting, a supervisor remarked that convening a zone-level meeting was not advisable before the middle of 1981. However, if COs had scheduled zone-level meetings, they should inform the irrigators' organization and training section head and other project personnel so that they (COs) could be assisted.

8. Mobilization of farmer-leaders. Upper Lalo COs reported in April that only the leaders were actively involved in project activities. Hence, they were reminded that while their objective was to strengthen the leadership within farmers' groups, they should not neglect the membership. If only the leaders became active participants, they would foster an attitude of dependency among the members. This would be unfavorable for an organization.

9. Quality of organizing work. In April 1981, after a review of their accomplishments during the first quarter (January to March 1981), COs were urged to be conscious of the quality, not quantity, of their organizing work. In this regard, they should keep utilizing the "problem-solving cycle" which involved: (a) identification of an issue, (b) groundwork on an issue, (c) mobilization or meeting for the resolution of the issue, and (d) evaluation of the foregoing process through action-reflection. It was also stressed that they should ensure the majority's participation in an activity, constantly assess whether the farmers had developed skills useful particularly for

assuming system operation and maintenance tasks from the activities they undertook, and move on to mobilizing farmers for construction work only after they had been organized.

10. Observations regarding the Lower Lalo zonal leaders' consultation conferences. After the conferences in June, COs made the following observations: (a) farmers themselves scheduled their activities and in the process learned that the time they allotted for a certain activity was not enough; (b) it should have been clarified that the conference was their activity, hence they should have put up a "counterpart fund;" (c) the project office accepted its weakness in meeting its commitment to provide transportation facilities for the conference; (d) farmers' attendance was incomplete because of family- or work-related reasons, hence reflecting on the kind of planning made; (e) farmers who were assigned certain tasks during the conference were not thoroughly briefed; and (f) COs themselves were not well versed with the program and this hindered them from giving effective support. COs agreed that these would serve to guide them in improving future activities.

Apart from these issues, COs discussed and/or undertook the following activities: assessment of COs' accomplishment and/or performance, preparation of COs' work program for specific period, selection of a COs' supervisor-trainee for Lower Lalo from among the COs, scheduling supervisory sessions (both formal and informal), and preparation of periodic progress reports by COs.

Coordination and supervision in the field

COs' informal coordination work involved frequent team planning, consultation, and assessment sessions. This was undertaken in zones with more than one CO assigned to the area since late November 1980. However, a CO in one zone was encouraged to coordinate with those in adjoining zone in matters which affected farmers in his area and those in other zones. COs undertook these informal coordination sessions at least once a week.

Particularly beginning April 1981, the COs' supervisor also visited the individual COs periodically. In a number of cases, the field visits coincided with a farmers' activity (such as, farmers' meeting, TS-farmer conference) which the supervisor then attended.

V. LEARNING FROM THE RINCONADA/BUHI-LALO PROJECT

The documentation of field-level activities in the Rinconada/Buhi-Lalo project has revealed the processes in which farmers were engaged in the improvement of the Lalo River irrigation system (in Upper Lalo) and the development of a new national system (in Lower Lalo). The documentation research has also unraveled the roles and functions which two groups of project field personnel--COs and TS--played in these processes, and the manner by which COs and TS coordinated their tasks in order to achieve the participatory objective of the Buhi-Lalo project.

This chapter reviews the experiences and lessons gleaned from (1) the implementation of the Buhi-Lalo project in the pre-construction stage (in Upper Lalo and Lower Lalo) and in the construction phase (in Upper Lalo), (2) the formal organization of Upper Lalo farmers into irrigators' associations and the negotiations over the NIA-association system management contract, and (3) the coordination of institutional and technical activities during the 15-month research period. This chapter focuses on the processes which highlight lessons attendant to the use of the participatory approach in the rehabilitation of a national irrigation system and the development of a new system.

Initial Organizing Activities

A keystone of organizing work in participatory irrigation development projects is the presence of community organizers during a reasonable period before the commencement of the construction of irrigation facilities. COs need this "lead time" to accomplish two things: (1) build organizational capabilities of small groups of farmers before proceeding to the formation of irrigators' association, and (2) mobilize farmers to participate in determining the layout of and in constructing terminal facilities. These immediate goals involved Buhi-Lalo COs in various initial organizing activities like defining their organizing units, which would also constitute the smallest unit of the prospective irrigators' association; preparing lists of farmers who would be mobilized to participate in project activities and who would comprise the

initial membership of the association; selecting potential farmer-leaders, who could assist COs in various organizing tasks; and convening farmers' meetings.

Delineating organizing units and preparing lists of farmers

A step which necessarily precedes the mobilization of farmers for project activities involves the definition by COs of their primary organizing units. These organizing units pertain to the effective areas where COs would conduct groundwork and other organizing activities so that farmers in these areas, as a group, could be involved in particular tasks, including defining the lay-out of terminal facilities. In anticipation of system operation and maintenance, Buhi-Lalo COs organized farmers into water users' units. And in consonance with the rotational method of water distribution followed in national irrigation systems, they constituted the basic organizing units which would coincide with the rotational-area groups (that is, farmers who would draw water from a common turnout). Most of these rotational areas covered 20 to 54 hectares.

Upper Lalo experience. When COs began organizing work in Upper Lalo, the irrigation system had been operational for at least four years. Thus, rotational-area boundaries had been established and lists of farmers could be based on the system's parcellary map and the watermaster's list of irrigated and planted farm lots in each rotational area. The watermaster's list, however, did not include the names of cultivators of fields for which the landowners were the ones who settled the irrigation bills; but this list repeated the names of farmers who tilled more than one farm lot within either a rotational area or a zone. The initial validation of lists of farmers, therefore, was aimed at determining the exact number of actual cultivators in a rotational area. These lists were validated during groundwork activities which COs, and later farmer-leaders, undertook with farmers in the rotational area. Further confirmation of the lists of farmers was accomplished as rotational-area boundaries were redefined after NIA and the farmers had agreed on changes in the layout of terminal facilities. The last of the list-validation activities took place as the newly-formed irrigators' associations attempted to determine who among the farmers were listed in more than one area, and who among the listed farmers were residing within the coverage of the association.

Lower Lalo experience. In Lower Lalo, the first of several preliminary system designs for the upstream zones (including the two documentation sites) was made available at the end of March 1981, or about four months after COs' deployment. During those first four months, COs had to divide their respective zones into arbitrary sections on the basis of either farmers' residence or the location of their riceland. As the TS' proposed paper location of canals and terminal facilities for the zone was completed, COs began to organize farmers into rotational-area groups. In about two of every three cases, COs had to reorganize the initial arbitrary farmers' groups because their previous subdivisions of their zone did not coincide with the rotational-area boundaries indicated in the project office's preliminary location of canal and ditch lines. Consequently, several farmers' groups resented the second wave of organizational activities because this involved redoing most of the work accomplished by the arbitrary farmers' groups such as preparing spot maps, compiling lists of farmers, and convening organizational meetings.

Lists of farmers for the different rotational areas were initially prepared by COs. Validation of these lists, however, was accomplished usually by farmer-leaders during their preparation of the spot map of their rotational area. As farmers delineated their preferred layout of terminal facilities, they were able to determine who among the cultivators of rice fields within their rotational area were bound to be served by the irrigation facilities they had located. Lists of farmers were further confirmed after the TS-farmer team had established the final location of terminal facilities during the survey(s).

Selecting farmer-leaders and convening farmers' meetings

Among the initial activities of Buhi-Lalo COs was to identify farmers who possessed leadership potentials and who were willing to help COs explain the project to other farmers, prepare (or validate existing) lists of farmers, and convene farmers' meetings. These selected leaders were called "contact leaders" to distinguish them from those whom farmers would choose later. The contact leaders served as COs' links with the farmers in a rotational area. Moreover, these leaders assisted COs in convening farmers' meetings during which farmers elected their leaders.

In Upper Lalo as well as in Lower Lalo, COs initially asked established community leaders, some of whom were incumbent barangay officials, to serve as their contact leaders. COs expanded their selection to include farmers who were articulate, willing to commit some of their time to the project, trusted by their peers, and who exerted some influence on other farmers. Some of these contact leaders were subsequently weeded out either because they failed to perform leadership functions or they requested COs that they be relieved of their responsibilities. Further validation of farmer-leaders took place when farmers in a rotational area began electing their own leaders.

While contact leaders were instrumental in convening the first, and usually the organizational, meeting in an area, farmer-elected leaders assumed the responsibility of organizing the succeeding sessions in the area. Regardless of the nature of the meeting, the following process was observed in the Buhi-Lalo project. Planning for the meeting was done by COs and/or farmer-leaders of the rotational area. A planning session was sometimes convened to discuss the agenda, date and time, and place for the farmers' meeting. During this planning session, the leaders also identified the persons who would inform other farmers about the scheduled meeting. During the farmers' meeting, the rotational-area leader (in Upper Lalo) or the overall area chairman (in Lower Lalo) presided over the meeting. Discussions or debates involved both leaders and members. An action-reflection session, during which farmers assessed both the process and the results of the meeting, concluded the farmers' meeting.

Farmers' meetings brought together a number of farmers for discussions on problems and solutions, proposed location of terminal facilities, and farmers' participation in project activities. These meetings also facilitated the dissemination of project information. But because of the low attendance in most sessions, COs and farmer-leaders continued to meet with farmers individually or in smaller groups. While Upper Lalo and Lower Lalo shared common process and problems in connection with farmers' meetings, these two areas diverged in the matter of selecting farmer-leaders.

Upper Lalo leaders. The selection of leaders in Upper Lalo was observed to be closely linked with "organizing-work targets" set by the project office. Beginning in January 1981, COs and contact leaders mobilized farmers in different rotational areas to elect their respective ditch leaders, at least one per ditch. (Farmers later designated their main-farm-ditch leader to be their rotational-area leader.) These elected leaders were expected to

help prepare farmers to revise the designs for terminal facilities and to participate in the construction of these facilities. Construction was resumed in mid-March 1981, or about 15 days earlier than the project office's scheduled date. In May and June 1981, the selection of additional farmer-leaders in rotational areas which had not yet elected the prescribed number of leaders was accomplished by COs and farmers outside formal farmers' meetings. This was done in connection with the mid-1981 target of organizing farmers at the lateral- and main-canal level, and in preparation for the NIA-association system management contract negotiations. And in accordance with the plan to organize farmers into zonal irrigators' associations, COs and farmer-leaders mobilized farmers who cultivated rice fields within a zone to meet in December 1981 so that they could ratify the bylaws (which had been drafted during farmers' meetings in different rotational areas over the preceding 3 to 4 months) and elect their association officials.

The farmer-leaders were instrumental in convening rotational-area meetings, organizing farmers to join walk-throughs and surveys with TS, and mobilizing farmers to work in the construction of terminal facilities in their respective rotational areas. Moreover, these leaders met with project management to discuss the broad terms of the NIA-association system management contract. They also convened farmers' meetings to draw up the terms and conditions which farmers would want to include in the contract covering the joint NIA-association operation and maintenance of the Lalo River irrigation system.

Not all the elected leaders, however, became active in performing their leadership functions. Of the 141 elected or appointed leaders, 39 were dropped by COs and farmers either because these leaders failed to discharge their duties, had moved out of the area, or their riceland fell outside the limits of the rotational area after the area boundaries had been redefined during NIA-farmer negotiations over the location of terminal facilities. By the end of March 1982, leaders in the two documentation zones of Upper Lalo totaled 111, or 1 leader for every 6 farmers.

Lower Lalo leaders. After COs had selected their contact leaders in Lower Lalo, farmers' groups began to organize their working committees which would undertake the following tasks: prepare and confirm lists of farmers, prepare the spot map of the rotational area and a preliminary paper location of ditch lines, negotiate rights of way with those whose property would be affected by the proposed ditch routes, and mobilize farmers for

participation in surveys to be conducted by project office personnel. The farmers also elected the overall chairman (and, in a few areas, vice-chairman) and secretary for the rotational area. Unlike in Upper Lalo, no ditch leaders were named, since there were no definitive ditch network to guide the grouping of farmers according to the supplementary farm ditches which would convey water to the farmers' fields.

As a rule, the overall chairmen and the committees accomplished the tasks assigned to them. Membership committees, working with those charged with preparing spot maps, did prepare and validate lists of farmers. As owners and cultivators of rice parcels were identified during walk-throughs, the membership committee of an area was able to check the preliminary lists of farmers. Moreover, farmers comprising the spot-map committee drafted the spot map and, after at least one walk-through of the area, sketched in the likely routes of farm ditches. Similarly, right-of-way committee members constituted the bulk of farmer-leaders who negotiated for right of way with affected landowners. And in areas where a survey committee was formed, at least the committee chairman assisted the rotational area's overall chairman in mobilizing their peers to participate in surveys of the TS-farmer agreed ditch lines. The most consistently active leaders included the rotational-area overall chairmen, and the head and one or two members of each committee.

In a rotational area where an overall chairman performed poorly, the leader was replaced with a more active leader. COs simply stopped coordinating with the inactive leader and, instead, worked with another who was more willing to take on the responsibilities of an overall chairman. COs used the same strategy in dealing with committee chairmen and members who had been persistently remiss of their duties. Because no formal dropping of farmer-leaders occurred after June 1981, the 255 farmer-leaders elected or identified in the two documentation zones by March 1982 included about 25 not so active leaders. This meant having an average of 10 leaders in a rotational area with a membership of about 46 farmers. The exclusion of the non-functional leaders, therefore, resulted in a ratio of 1 leader to every 4 or 5 farmers, or a slight reduction in the leader-member ratio.

Lessons from the Buhi-Lalo experience

The initial organizing conditions and activities in the Buhi-Lalo project pose several issues, and provide some lessons which bear on the use of the participatory approach in the improvement or development of a national irrigation system. These issues and lessons encompass the questions of lead time for COs' organizing activities, the influence which COs' organizing schedule and choice of potential leaders exert on the farmers' selection of their leaders, and the type of leadership engendered by the processes observed in the selection of leaders in the Buhi-Lalo areas.

Lead time for organizing work. The Buhi-Lalo project provides two scenarios for irrigation development efforts: the rehabilitation of an existing system (in Upper Lalo) and the development of a new system (in Lower Lalo). The appropriate lead time for COs' preconstruction organizing activities differs for these two project settings.

In a rehabilitation project, lead time can be shorter than in an area where a system is being developed. This is because in the rehabilitation area, COs' initial organizing work is facilitated by the presence of firmly established organizing units (that is, rotational areas). At the outset, farmers are aware of who belong to their rotational group; this awareness engenders a group feeling among them. Moreover, because these groups are fixed, COs can then proceed to organize them. As an area becomes organized, COs can move on to the next area and simply conduct follow-up in the previously covered areas. This method works particularly well when COs have identified farmer-leaders who can assume some of the organizing responsibilities.

For their preconstruction organizing work, Upper Lalo COs had about four months between their arrival in late November 1980 and the resumption of construction in mid-March 1981. Of the 17 rotational-area groups in the two documentation zones, four began construction of terminal facilities in March 1981; in five other areas, farmers started construction in May or June 1981. In the remaining eight rotational areas, resumption of construction was delayed until October 1981 while NIA and/or the farmers sought solutions to problems related to the location of terminal facilities and construction arrangements. Thus, while Upper Lalo COs were officially given four months exclusively for preparing farmers for construction, preconstruction organizing period

(or lead time) varied from 4 to 6 months in some areas to 10 months in other areas. Two COs working in a zone, which measured about 256 hectares and covered 8 to 9 rotational areas, actually needed at least 6 months of lead time to get half of the rotational-area groups in a zone ready for construction. This translates to 12 person-months per zone, 1.4 person-months per rotational area, and 1 person-day per hectare. The extension of preconstruction organizing work beyond the official four-month lead time seemed to indicate the insufficiency of the lead time allowed Upper Lalo COs and the need to give COs working in an irrigation improvement project at least six months as lead time before construction starts in a zone.

In the case of the development of a new system like in Lower Lalo, lead time for organizing work needs to be longer since the organizing situation is not as well defined. With construction of irrigation facilities in the documentation zones not having started by the end of March 1982, COs in Lower Lalo were each given about 16 months as lead time. During the documentation research period, COs in the documentation zones covered a total of 15 to 17 rotational areas per zone. With two COs operating in each zone, which measured about 310 hectares, effective preconstruction organizing lead time totaled roughly 31 person-months per zone, or two person-months per rotational area, or about two person-days per hectare. Lower Lalo COs' organizing lead time was therefore double that allowed COs in the Upper Lalo documentation zones.

The longer lead time given Lower Lalo COs resulted from a decision to field all Buhi-Lalo COs in late November 1980. What advantages and disadvantages can be gleaned from the longer organizing lead time which was granted Lower Lalo COs?

A review of the documentation data points to the following. First, COs were allowed to widen the leadership base of farmers' groups. With the formation of committees and the election of rotational-area overall chairmen and secretaries, the ratio of leaders to total membership reached 1:4 while the comparable figure in Upper Lalo was 1:6. The longer lead time also permitted the committees in Lower Lalo to function; in Upper Lalo, tasks which had been assigned to committees were accomplished by the rotational-area and ditch leaders because of the pressure brought on the farmer-leaders to complete the committee tasks. Thus in Lower Lalo, the membership committee helped COs prepare the lists of farmers beginning in July 1981; this committee, along with the committee charged with the spot-map preparation, validated

previously prepared lists. Second, in Lower Lalo farmers prepared the initial layout of terminal facilities which NIA and the farmers subsequently revised. In Upper Lalo, in contrast, NIA drafted the initial layout which farmers and NIA revised. And lastly, farmers' doubts over NIA's intent to involve them in the development of their irrigation system seemed to have been overcome. Among the Lower Lalo farmers who were initially leery of NIA's efforts after their experience with nonfunctional irrigation facilities (built about three years prior to the entry of COs in the area), a number had participated in project activities; a few others had toned down their hostile reactions to the project.

While there were advantages to a long preconstruction lead time for organizing, there were also a few disadvantages; these disadvantages were aggravated by the early deployment of COs in Lower Lalo. Because COs were fielded before the main and secondary canal lines had been delineated, farmers were exasperated at the continuous changes in farmers' grouping particularly during the first 7 to 8 months of COs' stay in the field. A number of farmers felt that the changes had rendered some of their efforts (like spot-map preparation) worthless. Moreover, some farmers were unhappy when redefinition of zonal boundaries involved farmers' reassignment to other COs. And lastly, farmers who had completed negotiations with TS on the location of the terminal facilities increasingly became unhappy when construction of these facilities could not be started soon.

These problems imply that (1) the major canal lines and rotational areas should be tentatively defined before organizing work begins, as long as this leaves ample time for farmers to develop their own suggested locations for terminal facilities and for them to check and revise these locations with the engineers; and (2) the final agreement on the location and design of terminal facilities should soon be followed by construction. In some rotational areas, this time interval amounted to at least six months which resulted in the dissipation of interest among the farmers.

The lead time allowed COs operating in participatory communal irrigation projects, which cover 200 to 300 hectares, seems to be applicable in development efforts involving the construction of a new national irrigation system. This means preconstruction organizing time of 9 months for two COs working in a 300-hectare zone, or a total of 18 person-months per zone, or about 1.3 person-days per hectare. On the other hand, in a project involving the improvement of an existing national irrigation system,

the Upper Lalo experience suggests that two COs in fact need about 6 months to prepare at least half of a 256-hectare zone for construction; the required lead time, therefore, amounts to about 1 person-day per hectare.

Selection of leaders. In both Upper Lalo and Lower Lalo, COs usually chose established community leaders to comprise their first batch of contact leaders. This strategy raises the possibility that COs might be identifying individuals already burdened with leadership functions and/or those preoccupied with prestige rather than the responsibilities of irrigation leadership positions.[89] At the outset, COs and farmers apparently addressed this concern by subjecting contact (and, later, elected) leaders to a regular "performance evaluation" process. COs encouraged farmers to regard their leaders as leaders only if they actively undertook their assigned functions and participated in project activities. Then later when elections were held for leadership positions in a rotational area, farmers tended to retain only those leaders who had proven their worth as rotational-area or ditch leaders (in Upper Lalo) and as overall or committee chairmen (in Lower Lalo). Of the 96 contact leaders in Upper Lalo, only 55 (or 57 percent) were elected by farmers as leaders. In Lower Lalo, almost all contact leaders were named by farmers to different working committees while the person who presided over the organizational meeting was generally elected as overall chairman of the rotational area.

The continuous assessment of farmer-leaders' performance by COs and farmers seemed to provide the necessary ingredient for developing task-oriented (versus prestige-oriented) leaders. This was particularly obvious in Lower Lalo where leaders had more tasks to perform and their "performance" could be evaluated against specific functions. Moreover, Lower Lalo COs and farmers had sufficient time to continually assess leaders' effectiveness and to replace those who proved to be ineffective or inactive. In Upper Lalo, on the other hand, the impact of the evaluation of

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[89] Attempts by Lower Lalo COs to get farmers to name likely contact leaders rarely met with success for the following reasons: farmers tended to suggest traditional leaders who had economic resources necessary to function as leaders, and a number of farmers were wary of giving recommendations in view of the work involved in the leadership position.

farmer-leaders' effectiveness appeared to have been diminished by COs' concern to meet their organizing-work targets. This concern triggered the following. Some 46 of the 91 leaders in the two Upper Lalo documentation zones by end of June 1981 were identified outside formal meetings. These appointees completed the required number of farmer-representatives to the May and June 1981 conferences which paved the way for meeting the midyear target of organizing farmers at the main- and lateral-canal level. In the flurry of meeting their organizing-work targets, COs and farmers concentrated on naming additional farmer-leaders and virtually neglected assessment of leaders' performance. And in December 1981, elections of association officials were held although the attendance rate in either Zone I-A or Zone I-B never reached 40 percent. This time, the project office's intent to have zonal irrigators' associations in place preparatory to the signing of the NIA-association system management contract provided the pressure for COs to organize farmers in each zone into an association.

The Upper Lalo documentation data suggest that an organizing schedule which is too short (as reflected in the preconstruction organizing time) spawns a situation wherein farmer-leaders are selected in haste, and irrigators' associations are organized too soon. While organizing-work targets might provide COs with a useful direction, these targets should be flexible to respond to realities in the field.

Leadership basis. The divergent styles of identifying farmer-leaders in Upper Lalo and in Lower Lalo indicate alternative bases for developing leaders. In Upper Lalo, leaders were initially chosen to lead the farmers in a particular area--a rotational area or a ditch area. Basing leadership in geographical sections of the rotational area had displayed some degree of success in getting rotational-area and ditch leaders to mobilize labor for canalization. Moreover, these leaders negotiated for rights of way with landowners whose farms were located in their respective sections of the rotational area. And for walk-throughs and stake-outs, ditch leaders were charged with ensuring participation of their ditch groups.

In Lower Lalo, in contrast, leaders were initially chosen to carry out specific tasks. Except the overall chairman who was responsible for coordinating farmers' involvement in project activities in a rotational area, the rest of the leaders were not identified with particular sections of the area. Instead, they led activities such as preparing and confirming lists of farmers,

preparing the spot map and paper location of terminal facilities for the area, negotiating rights of way, and participating in surveys conducted by NIA personnel in their rotational area. Although this strategy appears to be the product of the inavailability of a definitive layout of the ditch network around which organizing could be done on the ditch level, it nonetheless proved to be a fruitful method of eliciting farmers' participation and of building farmer-leaders' commitment to the project. It also helped focus attention on people who were willing to work rather than on leadership per se.

While right-of-way negotiation had been successfully accomplished by leaders associated with specific sections of the project coverage in Upper Lalo, the task had been undertaken in Lower Lalo by farmer-leaders most of whom were chosen specifically to negotiate for rights of way. However, the function which Lower Lalo leaders performed most efficiently was the preparation of their area's spot map and paper location of canal and ditch lines. Formation of committees which would prepare the farmers' proposed ditch network appeared to have worked very well. Because the spot-map committee also involved other leaders and members in defining the initial ditch lines, the creation of task-specific working groups presented an attractive alternative to outright selection of multipurpose, section-based leaders.

Location of Terminal Facilities and Right-of-Way Negotiations

During the preconstruction stage of the Buhi-Lalo project, organizing work centered on engaging farmers in the determination of the layout of terminal facilities in their respective rotational areas. Efforts of the technical staff were aimed at integrating farmers' proposed ditch routes, which were found feasible during surveys, into the system design. Once the location of farm ditches was established, the project staff encouraged farmers to negotiate for rights of way with landowners affected by the ditch routes.

The processes which were instituted to involve farmers in the system design phase resulted in varying intensities of farmers' participation. However, the Upper Lalo and the Lower Lalo experiences both underscored the benefits which could be derived from involving farmers in identifying the ditch layout and in right-of-way negotiations.

Operationalizing farmers' participation in the system design phase

The general mode of eliciting farmers' involvement in locating the terminal facilities took the following form. The project office first prepared a preliminary paper location of terminal facilities. This was shown to the farmers for discussion. The proposed lines were either approved or rejected; in the latter case, farmers usually suggested alternative locations, particularly if some owners persistently objected to having a canal or ditch traverse their property. From hereon, Upper Lalo and Lower Lalo farmers differed in the manner in which they negotiated with TS on the location of terminal facilities.

Process observed in Upper Lalo. When COs were fielded in Upper Lalo, construction activities had begun. Construction of terminal facilities was suspended between January and March 1981 to permit COs to prepare farmers for participation in system design and construction activities. These expectations put COs under tremendous pressure to move quickly. Consequently, COs concentrated on having farmers respond to the NIA-proposed ditch lines rather than having farmers develop from scratch their proposed lines.

COs and leaders presented the NIA-prepared preliminary layout to farmers during their visits to individual farmers. They also elicited group response to the proposed routes during rotational-area meetings. Farmers and ZE then conducted onsite investigation of the suggested ditch lines. Walk-throughs were carried out when farmers registered their objection to all or part of the proposed layout of terminal facilities. While inspecting the problematic ditch sections, farmers pointed out why they wanted certain ditches to be shortened, rerouted, or deleted. Subsequently, a stake-out of the TS-farmer agreed ditch routes was held. In March 1981, ZE was instructed by the project office to submit a list of the proposed revisions on the original layout of terminal facilities and the reasons farmers had given for each revision. The revised design was then prepared by the project office; this was presented once more to the farmers of the rotational area concerned for confirmation and to allow farmers to prepare for construction.

Process observed in Lower Lalo. When COs began their organizing work in Lower Lalo, construction of irrigation facilities

was not scheduled to start until 1982. At the outset then, COs had at least 13 months to organize farmers for preconstruction technical activities. Consequently, COs were given time to mobilize farmers in each rotational area to develop their own paper location of canal lines and terminal facilities. Despite the initial reluctance of a few farmers, farmers' groups prepared a spot map of their rotational area and indicated on it their proposed ditch (and sometimes, canal) lines.

Farmers' participation in system design was then operationalized in Lower Lalo to go beyond responding to a (project-office) prepared layout. The process consisted of several stages. First, farmers in a rotational area formed a spot-map-preparation committee. Members of the committee, along with other farmers, conducted a walk-through to confirm what they knew of the topography of the land, location and owner/cultivator of rice parcels, and the boundaries of the rotational area. These types of information were then placed in the spot map, together with familiar landmarks in the area. After completing the map, the farmer-leaders indicated the proposed ditch routes which had been identified during the walk-through. This paper location of terminal facilities was subsequently presented by the leaders to other farmers in the area during either a meeting or home visits. Having negotiated among themselves the layout of ditches which they would present to TS, the farmers then invited project (design and survey) personnel to a conference and/or a walk-through. The TS-farmer team used the farmers' paper location of ditch lines as reference.

During the walk-throughs, farmers who had objections to the farmers' proposals made sure they were present (or had sent a trusted representative) so that they could air their side and offer an alternative route to the objectionable section(s) of the ditches. The walk-throughs usually ended with preliminary agreements between TS and farmers regarding the location of terminal facilities which would be covered by the survey team. Field investigations, including surveys, focused on determining whether or not farmers' suggested lines could be followed.

Leaders and members accompanied the survey team which investigated the ditch routes defined during the TS-farmer walk-throughs. When particular ditch routes were not found feasible by the survey team, TS and farmers identified alternative routes. Results of the survey were then presented during rotational-area meetings so that farmers' confirmation of the new ditch lines could be sought.

In Lower Lalo, therefore, negotiations for the location of terminal facilities proceeded at two level: one, among the farmers in order to arrive at the proposed ditch routes which they would present to NIA; the other, between farmers and TS in order to identify the ditches to be designed and constructed.

Securing right-of-way agreements

Right-of-way negotiations were undertaken by farmer-leaders. In Upper Lalo, ROW donations for the main farm ditch were usually secured by the rotational-area leader while those for the supplementary farm ditches were obtained by their corresponding ditch leaders. In Lower Lalo, ROW negotiations for terminal facilities were accomplished by the ROW committees while those for lateral canals were undertaken by almost all farmer-leaders. In both areas of the Buhi-Lalo project, the leaders involved their members by holding ROW negotiations during meetings or walk-throughs to which affected landowners were invited. The leaders also sought the assistance of NIA's ROW section in settling negotiation problems. COs and ZEs helped in the leaders' negotiations by mediating or making personal follow-ups. ROW agreements on terminal facilities were obtained through a verbal or written consent from farmers.

During their walk-throughs (and, in Lower Lalo, TS-farmer surveys), farmers learned who among those with fields to be traversed by proposed ditches had objections to donating ROW. These objections were raised owing to the following reasons: (1) farmers feared that an unequal amount of land would be taken for the construction of a ditch traversing the middle of two adjacent farms; and (2) they sometimes had demands to be granted. For example, one farmer wanted NIA to pay him for giving ROW for building the access road; another demanded that a boulder which fell on his farm during the construction of an access road be removed. And in Upper Lalo, farmers considered it unnecessary to construct a new ditch on their land because there was an existing ditch there which provided sufficient water, and because the construction of a new ditch would further decrease the size of the land.

Negotiations with farmers who refused to donate ROW were undertaken by leaders during their field investigations (walk-throughs and surveys with TS) or during subsequent rounds to secure written ROW permits for proposed ditches. In these negotiations, they employed the following means: (1) they explained the importance of the ditch to fellow farmers, (2) they exerted peer

pressure, (3) they conducted constant and relentless talks and subtle coercion, or (4) they conceded to conditions within their capabilities, like removing the boulder from one farm with the help of farmer-members.

The leaders encountered two difficulties which delayed the process of securing ROW donations. One, a tenant or lessee could not grant ROW without his landowner's prior consent. Particularly when the landowner lived outside the zone, it took some time before his consent could be obtained by the tenant or lessee and the farmer-leaders. And two, the leaders became aware of ROW objections much later after a walk-through because some farmers were absent when this activity was held. Negotiations with these farmers extended the period of securing all ROW permissions for a proposed ditch.

When the various means to secure ROW donations failed, the leaders resorted to: (1) opting for the retention of existing ditch routes (in Upper Lalo), (2) seeking alternative routes which were free of ROW problems, and (3) ending the proposed ditch routes before the fields of farmers refusing to grant ROW. These actions were taken after consultation with farmer-members.

Lessons from the Buhi-Lalo experience

The strategy of involving farmers in identifying the location of terminal facilities and negotiating ROW for the ditch routes entails mobilizing farmers' resources to accomplish these tasks. Apart from their time input, farmers contributed insights which, although governed by selfish interests, were found to result in fewer ditches, lesser loss of land to ditches, and greater hectarage which could be irrigated within the rotational area. Moreover, leaders harnessed means and invoked claims on other farmers which facilitated a number of ROW negotiations.

Farmers' willingness to invest time in the project. The activities leading to the finalization of ditch lines and the successful negotiations for ROW donations demanded inputs of time and effort from farmers. The amount of time spent by farmers in locating the terminal facilities suggests a considerable degree of willingness among farmers to participate in the system design phase of the project.

In Upper Lalo, the approximate person-days mobilized for TS-farmer walk-throughs in the two documentation zones totaled 74, or 4.4 person-days per rotational area. Stake-outs involved a total of 210 person-days, or roughly 12 person-days per rotational area. Farmers' time resources which were released for field investigations to locate farm ditches then amounted to 16.4 person-days per rotational area, or 142 person-days per zone. In addition, considerable time was used for ROW negotiations. Unfortunately, precise time-investment data were not available for these activities but they added at least another 5 person-days per rotational area.

In Lower Lalo, the wider array of activities leading to the location of terminal facilities in the two documentation zones involved 636 person-days, with 309 person-days spent in accompanying TS during surveys of farmers' proposed ditch routes. The amount of time resources invested by farmers in the system design phase averaged about 25 person-days for each rotational area, or roughly 318 person-days per zone. These figure were at least 50 percent more than the time spent by Upper Lalo farmers in ditch-location activities. Moreover, the involvement of farmer-leaders in the negotiations for right of way for ditches as well as lateral canals resulted in additional time investment of approximately 7 to 10 person-days per rotational area, or 50 to 100 percent more than the time spent by Upper Lalo leaders in ROW negotiations.

The data on farmers' time input in the determination of the layout of terminal facilities suggest at least two lessons. Farmers' involvement in the system design phase demands time investment from both the project staff and the farmers. When farmers' participation begins with their developing their paper location of terminal facilities, the demand on farmers' time increases. It appears, too, that this process requires more time input from TS.[90] More importantly, however, farmers proved to be

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[90]The technical staff who worked in Lower Lalo found the process observed by farmers too time-consuming. Consequently, the procedure was simplified by first doing away with the TS-farmer conference on the farmers' paper location of terminal facilities. Then, farmers agreed with the TS' suggestion to skip the TS-farmer walk-through and to proceed directly to a survey of the ditch lines contained in the farmers' spot map. This much shorter process was put into effect in March 1982.

willing to supply the time demanded by activities leading to the finalization of the location of terminal facilities in their respective rotational areas. This willingness to commit time and effort in the system design phase could be partly due to farmers' recognition that location of ditches would affect their prospective access to water at the same time that ditches traversing their lands could result in the reduction of the farm lot which they could cultivate. By participating in the determination of the ditch lines, farmers could then ensure that benefits would be maximized and losses to be borne by individual farmers, kept to the minimum.

Farmers' interest to improve ditch routes. Farmers in Upper Lalo and Lower Lalo generally proposed locations of terminal facilities which would accomplish any of the following objectives: (1) to have a ditch network that would irrigate as large an area as possible (including previously unirrigated land),[91] (2) to avoid unnecessary loss of land owing to the construction of ditches,[92] (3) to distribute the loss of riceland among farmers who would be benefited by the system,[93] and (4) to construct ditches which would not involve negotiating for right of way with contentious cultivators or landowners of riceland affected by the proposed ditch routes. Moreover, Upper Lalo farmers sought to ensure that delivery of irrigation water would not be hampered by facilities which are not functional; hence, they also proposed the relocation of dysfunctional turnouts.

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[91]Cases supporting this include the proposed rerouting of SFD-3 in RAMC-2 which aimed at conveying water to downstream fields which could not be previously reached by water, and farmers' suggestion to locate the turnout in RALAT-K-SP-3 so that additional 2 hectares could be served.

[92]Illustrative examples are provided by RAMC-4 farmers' proposal to reroute the TS-designed SFD-1 by using the existing ditch (which would also increase the service area in the rotational area), and by RALAT-K-SP-1 farmers' desire to have SFD-3 cut through high grounds to avoid traversing farm lots.

[93]This has been generally observed when farmers conscientiously plot the ditch routes along boundaries of rice farms rather than having the ditches cut across a particular rice parcel.

While the project office surely intended to realize the same objectives when it drafted the preliminary layout of terminal facilities, its data base and priorities were different. Project staff used a topographical map with 50-centimeter intervals while farmers used their years of experience in tilling the land. Project staff aimed for simple and straight canal networks while farmers were more concerned about the area these would irrigate and ROW problems. In the majority of cases, the survey staff found farmers' proposed routes (in both Upper Lalo and Lower Lalo) to be technically feasible. And in two rotational areas in Upper Lalo documentation zones where farmers proposed a relocation of the site of a turnout (that is, replacing the existing NIA turnout), TS discovered during their field investigation that an existing turnout was indeed dysfunctional and the farmers' proposed site was a better location. Several hectares in an elevated section could be served by relocating the turnout. But where surveys had indicated that ditch lines or turnout locations were not feasible, farmers usually agreed to plot an alternative route or turnout location with the help of the survey team. Some of the ditch routes suggested by farmers had to be altered because they would cut through high grounds, the ditch lines were found too long, and/or the ditch network could be simplified without a significant loss in the additional area which the farmers wanted to be irrigated.

For Lower Lalo, at least half of the ditch lines suggested by farmers were confirmed by the TS-farmer survey teams. In Upper Lalo, 29 of the 77 NIA-designed ditches were immediately confirmed by the farmers, 30 were revised by TS-farmer teams, and 18 were deleted. Nine additional ditches were located to replace half of those deleted by farmers from the NIA's initial designs. In all, therefore, 68 ditches were constructed. This resulted in the construction of a total of 46,262 meters of farm ditches, or about 90.2 meters per hectare. Total cost of these ditches reached ₱157,611, or about ₱307 per hectare. The construction of 68 ditches instead of the NIA-proposed 77 ditches brought about a reduction by 2125 meters (or 4.1 meters per hectare) in the total canal length and a lowering of the cost of ditches by ₱7200 (or ₱14 per hectare).

The Buhi-Lalo experience underscores the point that farmers indeed possess strong and definite ideas about where facilities, especially turnouts and ditches, ought to be located. The ideas are based on their intimate knowledge of the topography which is borne by years of tilling in the area. This knowledge becomes particularly useful in designing farm-level facilities situated

on uneven terrain. In this kind of terrain, the need for ditches custom-fit to the specific form of the land is great. The proper tailoring of ditches takes place as a result of the inputs that farmers make when they are fully involved in designing these ditches.

The various benefits accruing from farmers' participation in locating terminal facilities were more sharply emphasized by observations made during the initial months of operation of the rehabilitated irrigation system in Upper Lalo. Of the 68 ditches built in the documentation zones, farmers erased one but used the other 67 ditches thereby irrigating fields which farmers wanted to be served. And farmers in two rotational areas began maintaining the farm ditches with very little prodding from the NIA system personnel. Engineers in the Buhi-Lalo project found both points remarkable in the light of experiences in other (nonparticipatory) national irrigation projects and of previous problems encountered in the Lalo River system in connection with farmers' maintenance of farm ditches.[94]

While farmers' participation in the system-design phase does generate multiple benefits, it also brings about additional costs. This happens when it results in the deletion of existing or newly built structures, construction of more structures, and extension of the project timetable to allow farmers to accomplish specific tasks. However, even these costs can be rationalized, as evidenced in Upper Lalo. The relocation of two existing turnouts, for instance, was estimated to cost an additional ₱5000 each on the minimum. Field investigations conducted by NIA engineers, however, showed that not only were the existing turnouts dysfunctional, the new sites chosen by the farmers would irrigate the entire rotational area (including some elevated ricefields). In the case of farmers' requested structures and lining of certain sections of main farm ditches, additional expenditures were expected to be incurred by the project. A careful screening of these requests by NIA could minimize the added costs without sacrificing the benefits these works were expected to have in the operation and maintenance phase of the project. And lastly, the implementation of the participatory approach in the Buhi-Lalo project had dictated the extension of the construction timetable by six months

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[94]The operation and maintenance of the improved Lalo River national irrigation system in Upper Lalo is discussed in a report being prepared for NIA by the Research and Service Center of the Ateneo de Naga.

(from the original target of December 1981 to the new targeted end of construction in June 1982) in view of the three-month suspension of construction activities in early 1981 to allow farmers to prepare for construction. As it turned out, however, construction was completed faster than projected--two months later than the original target but four months earlier than the reset target.

Construction Activities in Upper Lalo

After the farmers and the project office had agreed on the ditch lines to be constructed, both parties then geared themselves for construction. In this stage, farmers' participation had been operationalized in terms of either working in the canalization and other NIA-administered works or contracting to undertake certain construction jobs in their respective rotational areas.

The preconstruction meetings between TS and farmers enabled both parties to discuss requirements and arrangements for construction. The engineers guided the farmers in preparing the plantilla (or mold) for ditches by furnishing them with data on the dimensions of ditches in their rotational area. An important supplement to these conferences of the farmers with TS were the explanations which the COs and ZEs provided outside the TS-farmer meetings concerning changes in the contracting arrangements. These project field personnel also advised the project office when farmers were ready to undertake construction jobs. When necessary, they insisted that the start of construction be deferred until they had met with farmers and the latter had understood new requirements (such as engaging in bidding for canalization works in connection with pacquiao contracts), and until right-of-way problems had been resolved by farmers.

Construction arrangements and farmers' participation

Farmers were involved in the construction of diversion works, rehabilitation of canals, and construction of terminal facilities. They hired out their labor for wages to NIA for construction works undertaken by NIA and for canalization done under volume-of-work (takay) arrangements. Beginning in October 1981, rotational-area leaders contracted the construction of the

remaining terminal facilities in their areas. Farmers from each rotational area joined the contract work of their area and generally shared in the earnings from the contract.

Farmers undertook two kinds of activities: excavation and backfilling. They were guided by the marks appearing on the stakes located at every station of the ditches. Workers were supervised by ZE and their attendance was recorded daily by a farmer-leader whom the workers had chosen to act as attendance checker. Upon completion of a ditch, the checker submitted to ZE the attendance sheet of workers hired under piece-work arrangements. For the contract jobs, the farmer-contractor kept the attendance records on which he based the amount to be paid each worker after NIA had released the funds for the completed construction works in the rotational area.

During the construction period (mid-March 1981 through February 1982), problems were encountered regarding the on-schedule start and/or completion of construction. Delays in construction of terminal facilities had been ascribed to lack of manpower when construction coincided with labor-intensive farming operations in the area, and to inclement weather. Moreover, a right-of-way problem met by farmers in one rotational area resulted in the suspension of canalization works for two months while farmer-leaders and the project office negotiated with the landowner to grant ROW for the new farm ditch.

Another reason for delay was negotiations about payment for construction. In one rotational area, farmers felt that, contrary to project office's assumptions, ditch construction involved heavy excavation and backfilling because of rocky soil along the ditch route. After airing their complaint to NIA, farmers suspended work for three months and resumed ditch construction only after the project office had made the necessary cost adjustments. The final cost estimate which TS reached after a series of field investigations and negotiations with farmers was almost three times higher than the original cost quotation. In another rotational area, farmer-workers threatened to abandon canalization work when they learned that the project office had reduced the cost estimate for the canalization job. The problem was settled when the project office explained to the farmers the reasons for the reduction in the cost estimate for the ditch construction. The farmers acknowledged the validity of NIA's arguments; nonetheless, they asked NIA to immediately inform the farmers of any changes in construction cost estimates. In yet another rotational area, some farmers felt that the rotational-area leader who

contracted the canalization job failed to compensate the workers equitably which then resulted in an undetermined profit for the farmer-contractor. The problem took about a month and a half to be resolved, with the complainants eventually deciding to "forgive" the farmer-leader, and accepting him back as a rotational-area leader and association official.

A problem which also beset the project office concerned takay workers who received a daily wage lower than the legislated minimum wage. Although this lower wage was due to workers not putting in the required 8-hour workday, the project office worried about possible legal implications. To avoid this problem, in October 1981 the project office reverted to giving the farmers fixed-price contracts for canalization (and, later, construction of canal structures) in the rotational area.

While the project office had successfully avoided the takay-related problem, it had not fully resolved the constant problem of delayed release of payment to farmer-workers. While still undertaking canalization using takay arrangement, NIA agreed to hasten the processing of payments and to make partial payments even if the completed work did not constitute the 30-percent (of the total contract work) accomplishment requirement. To avoid delays owing to the need for an accomplishment inspection (which usually took place about two weeks after end of canalization works in an area), the project office also instructed ZEs to prepare a certificate that the ditch was built according to specifications. By October 1981, however, ZEs stopped preparing the certificates because of their increasing supervision workload in construction. Thus, the project office fielded survey teams to conduct accomplishment surveys. In each rotational area, TS' accomplishment inspections were followed by an independent field investigation by the Commission on Audit. To assist farmers who were claiming payments from the project office, NIA posted a flow chart in a conspicuous place in the office. This chart provided information to farmers on which section to approach for specific payment-release requirements. Despite these measures, farmers continued to complain of delayed release of payments as late as February 1982. In general, payments for construction works were released by NIA about two weeks after end of construction. During the first three months after the resumption of construction activities in mid-March 1981, however, several payments were not released until five or six weeks after completion of canalization.

Lessons from the Upper Lalo experience

The results of the documentation of NIA's experience with farmers' participation highlight certain difficulties encountered by NIA and farmers during the construction stage of the Upper Lalo project. In turn, the problems and their resolution reveal some lessons for the application of the participatory approach at the construction phase of projects similar to the Buhi-Lalo efforts.

Adjustments in construction timetable. In an irrigation project using farmers' participation, adjustments have to be made in the timetable for construction activities. In Upper Lalo, these activities were originally scheduled to be completed by December 1981. Following the introduction of the participatory approach, however, NIA suspended construction for three months (January to March 1981) in order to give COs some lead time for organizing farmers to participate in construction tasks. NIA reset the completion of construction to June 1982 or six months later than the original plan. The new timetable allowed farmers to revise NIA-proposed terminal facilities (January through December 1981), undertake construction work (starting in mid-March 1981), inventory completed terminal facilities (in February and March 1982), and begin negotiations for additional canalization and canal structures.

Timing of construction. When counting on farmers to provide manpower for construction work, it is necessary to ensure that the work does not conflict with their cropping schedules. In Upper Lalo, the project management anticipated this need when it revised its construction timetable. Hence in the first month of involving farmers in building ditches, it apprised both COs and TS of the slack and peak farming periods in the project area. It also advised them to step up construction activities during slack period when they could reasonably expect farmers to be available for these activities. The Upper Lalo experience also showed that when construction work did conflict with farmers' farm operations, shortage of manpower was encountered and completion of construction works was delayed.

Benefits from farmers' participation. Allowing farmers to construct their own ditches revealed at least three advantages. One, farmers were more willing to donate their time and energy for preparatory activities like ditch location and stake-out when they were assured that farm ditches would be built according to their suggestions. Farmers felt that participation in construction of

the ditches was a means of guaranteeing that their proposed location of terminal facilities would be observed. Two, farmers were willing to settle all right-of-way problems which might delay construction completion. In the documentation zones, only in 1 of the 68 ditches built was a right-of-way problem encountered at the time when construction had been scheduled. Engineers noted that this was an exceptionally low rate of ROW problems compared with nonparticipatory projects they had worked on. And three, farmers exercised greater care in constructing ditches than regular construction workers, for farmers knew these ditches would bring water to their own farms. For instance, none of the 68 ditches constructed by farmers in the documentation zones had to be redone after TS' accomplishment surveys, and only six were found to have weak embankments when TS-farmer teams conducted an inventory of completed terminal facilities.

Flexibility in construction-related decisions. To allow farmers' involvement in construction and to avoid delays in completion of construction, the project office sometimes had to simplify procedures affecting farmers. In Upper Lalo, the project office experimented with replacing the time-consuming accomplishment surveys with ZE's certification of ditch-construction completion. It had also provided farmers with simple instructions on how and where to claim payments for construction work done.

Moreover, the project office had to renegotiate costs of construction contracts in some cases, and keep farmers informed of changes in construction costs to avoid unnecessary delays in construction completion. In one case in Upper Lalo, farmers' claim that the contract cost had been underestimated was borne out by field investigations. This miscalculation resulted in a three-month delay in the completion of canalization works in the area.

Preparations for Farmers' Assumption of Partial System Management Responsibilities

In line with NIA's intention to turn over partial system operation and maintenance responsibilities to the farmers, the project office instituted two moves. These steps, which were started simultaneously, involved organizing zone-level irrigators' associations and developing the farmers' terms for undertaking joint system management with NIA.

Organizing farmers into irrigators' associations

The decision to formalize the irrigators' associations at the zone level gave each association a meaningful area of responsibility (approximately 250 hectares).[95] In pursuing the goal to organize these irrigators' associations, COs assisted farmers with the following tasks: preparing the requirements for the association's registration with the Securities and Exchange Commission, including the finalization of the bylaws; ratifying the association bylaws; and holding elections for the board of directors and other association positions. These activities were geared toward helping the associations acquire a legal personality which would enable each of them to enter into a system management contract with NIA.

In both documentation zones of Upper Lalo, COs and other project office personnel engaged farmer-leaders in a series of conferences to inform them about the SEC registration requirements, and to develop with the leaders strategies for accomplishing them. The project office also provided each zone sample copies of documents among which was a sample set of bylaws. The farmer-leaders prepared the initial draft of the bylaws; this was revised during meetings convened in each of the rotational areas of the documentation zones.

While holding discussions on the requirements which each zone would have to fulfill in connection with its SEC registration, farmer-leaders also prepared for association elections. They developed their plans during meetings with COs and other project

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[95]Under NIA's participatory communal program, a number of irrigators' associations have successfully operated and maintained irrigation systems which served areas between 200 and 300 hectares. In contrast, turnout-level organizations formed in some national irrigation systems have not been as successful. These turnout-level organizations were limited to managing the irrigation facilities in an area of 50 hectares or smaller. These observations suggest that an area larger than a rotational or turnout area provides an irrigators' association more meaningful operation and maintenance activities, and a zone which covers about 250 hectares is a more realistic level on which to formalize an association.

personnel. In December 1981, farmers in each of the documentation zones met to ratify the association bylaws, to choose the members of the board of directors, and to form the working committees. In consonance with the provisions of their bylaws, Zone I-A farmers selected the person who would represent their respective rotational areas in the board. Each of the nine rotational areas in the zone was provided a seat in the board. Of the nine seats, eight were filled during the elections. The person who would occupy the ninth seat and would represent his rotational area was appointed by the board during its first meeting. In Zone I-B, farmers elected the five members of the board, regardless of their rotational-area affiliation.

In January 1982, the associations began finalizing the documents required for their registration with SEC. Moreover, they initiated, with the help of COs, the preparation of master-lists of their respective memberships for the purpose of membership-fee collections.

Negotiating the terms of the NIA-association system management contract

Preparatory work for the NIA-association negotiations over the terms of their joint system management contract began in May 1981. The first formal negotiation session took place in September 1981. This covered the conditions which farmer-leaders from the three Upper Lalo zones had drafted to apply to the entire Lalo River irrigation system. The second meeting, which transpired in March 1982, was convened separately for the three zones to discuss the terms which were proposed by farmers for their respective zones.

The preparations which farmers undertook in connection with their negotiation meetings with the NIA assistant administrator for operations consisted of a series of activities. For the first negotiation session, Upper Lalo farmer-leaders met in conferences convened by the project office. These conferences, together with rotational-area meetings held in the three zones, were intended to assist farmers in the development of a common set of terms for farmers' participation in system operation and maintenance. The last of these leaders' conferences, which was held in August 1981, resulted in the consolidation of the terms prepared by the Upper Lalo leaders. These terms stipulated NIA-association sharing in irrigation fee collections and in maintenance responsibilities;

farmers' need for an association office, service vehicles, and cash advance (from NIA) to cover the associations' initial operating expenses; and irrigation fee discounts for ROW donors and exemptions from fee payments for farmers who had realized harvests lower than 30 cavans per hectare. (Of the nine conditions presented by farmer-leaders, NIA accepted the requests for an office and service vehicle for each association. While the offices would be provided by NIA without any charge to the farmers, the service vehicles could be secured through a noninterest loan from NIA. The remaining seven terms had to be further negotiated between the farmers and NIA.)

In January 1982, the project office instructed the three newly-formed irrigators' associations to prepare their respective sets of conditions for their involvement in system operation and maintenance. The method of developing the zonal conditions varied among the three zones. In the two documentation zones, the process took approximately one month.

The Zone I-A board of directors drafted six conditions which the board discussed with project management. The meeting resulted in the deletion of one condition and the rewording of another. The revised set of five conditions was then presented to and subsequently accepted by the members during different rotational-area meetings. In Zone I-B, the board of directors solicited farmers' suggestions for the terms which would govern the association's participation in system management. This was accomplished through rotational-area meetings. The proposals solicited from these sessions were consolidated by the rotational-area leaders; the final set of 12 (from the original 13) conditions was prepared by the board.

The conditions which Upper Lalo farmers were negotiating with NIA reflected in part their understanding of the arrangements which could govern system operation and maintenance. Discussions during the first negotiation session indicated that farmers had to decide whether they wanted joint system management with NIA or a complete turnover of the irrigation system to the associations. Although farmers allowed for sharing with NIA the repair and maintenance responsibilities over the main and lateral canals, they proposed to remit only 1 of every 5 cavans per hectare collected from water users each year. The NIA assistant administrator for operations explained that under NIA's assistance program for community systems (or communals), 1.5 cavans per hectare was the minimum rate for repaying construction costs which NIA charged to irrigators' associations to whom irrigation systems

had been completely turned over by NIA. In case the Upper Lalo farmers would opt for complete system turnover, they would have to remit at least 1.5 cavans per hectare per year, and farmers would be wholly responsible for the repair and maintenance of irrigation facilities. At the close of the negotiation meeting, NIA and the farmers seemed to have reached an implicit agreement to explore the possibility of joint system management before venturing directly to complete turnover of the Lalo River system to the associations.

When NIA and association officials met again in March 1982, they agreed on the following conditions. First, the association would be responsible for water distribution within the zone. The implied condition was that NIA would take charge of delivering water to the different Upper Lalo zones. Second, maintenance of main and lateral canals and of terminal facilities found within a zone would be the responsibility of the irrigators' association. Third, the association would resolve conflicts among its members although NIA's assistance might be sought in special cases. And fourth, NIA would provide the different associations an office as well as technical assistance, including the conduct of seminars at NIA's expense.[96]

By the end of the March 1982 negotiation session, however, the associations and NIA had yet to agree on the terms related to: irrigation-fee collections, including adjustments in the fees to be charged ROW donors and those to be paid by farmers whose farm sizes had been overreported by NIA system personnel; the association's share in the repairs of lateral and/or main canals; and farmers' request for a cash advance to underwrite the associations' initial operation and maintenance expenses.

Learning from the Upper Lalo experience

The experience of Upper Lalo farmers with their organization into irrigators' associations and initial organizational activities yields at least four lessons. These relate to the timing of the formation of irrigators' associations in a project

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[96]In Zone I-B, NIA also agreed to complete the remaining terminal facilities and structures, and to line specific portions of lateral canals prior to the association's assumption of system management responsibilities.

involving an existing national irrigation system; assistance in complying with registration requirements; uses of membership lists; and representation of rotational areas in the association's leadership. Additional lessons are gleaned from the negotiations over system operation and maintenance which transpired in Upper Lalo during the documentation research period. One lesson refers to the need for farmers to understand the available options for undertaking system operation and maintenance; the other, to the development of terms which would be mutually acceptable and beneficial to farmers and NIA.

Timing of formation of irrigators' associations. Since pre-construction organizing lead time was quite limited in Upper Lalo, COs delayed the formal organization of the farmers until the end of the construction period. NIA awarded contracts for the construction of terminal facilities to informal farmer-groups in different sections of the documentation zones. This was done to give more time for task-oriented leaders to emerge and prove themselves, and to generate broader participation before formal elections were held. In connection with system operation and maintenance, however, NIA expected farmers to operate as a formally organized group. In this case, the contractor for system management would be the association. Thus in each of the two Upper Lalo documentation zones, COs did not organize farmers into irrigators' association until the farmers were about to negotiate with NIA the final terms for the association's participation in the operation and maintenance of irrigation facilities found within the zone. Hence, farmers were given about one year to develop their own leaders and to build their commitment to their zonal group.

Assistance with legal requirements. Bureaucratic requirements are often one of the hardest tasks for farmers' groups to handle. They require a sophistication in form-filling and bureaucratic follow-up that are rare skills among farmers. Anticipating these problems, the project office provided the farmers considerable help. It assembled Upper Lalo farmer-leaders for a discussion of the procedure and the documents to be accomplished for the association's SEC registration. The project office also provided each zone samples of these documents. Further assistance was extended by COs and other project personnel, who reviewed the initial drafts of the documents prepared by the farmers and helped the associations finalize the forms to be submitted to SEC. And finally, NIA collected the registration application papers from the associations and submitted these to SEC.

Uses of membership lists. The rotational-area membership list and, by extension, that of the irrigators' association are bound to vary depending on the purpose for which these lists are prepared. For instance, COs and leaders in the documentation zones asked farmers who were cultivating ricefields in more than one rotational area to choose their "home" area; this enabled the association to establish its exact membership size. A membership list based on head count of cultivators was deemed crucial for collecting membership fees as well as for determining the quorum in general assemblies. While this list of members might be useful for purposes related to zone-level activities, such list might not be effective as a basis for collecting irrigation fees and mobilizing farmers for the operation and maintenance of irrigation facilities because these activities would likely be accomplished by each rotational-area group. Irrigation fees would be collected by the designated rotational-area fee collector from farmers who cultivated fields in the rotational area. Thus members who farmed in more than one rotational area would settle their irrigation service bills with several fee collectors. The upkeep of farm ditches would also involve cultivators of farms located within the rotational area, regardless of whether some of the farmers have also to participate in maintenance work in other rotational areas. This situation stresses the need for two different membership lists at the rotational-area level: one showing all the farmers who tilled in that area and the other showing which of these farmers used this rotational area as the basis for their membership in the irrigators' association.

Representation in the association leadership. The composition of the association's board of directors provides a first approximation of the likely future involvement of members in association affairs. In Zone I-A, for instance, each of the nine rotational areas was allotted a seat in the board of directors. This strategy appears to ensure direct access of each rotational-area group to the association's decision-making body. In Zone I-B, on the other hand, board membership was limited to five (while there were eight rotational areas in the zone). and board members were chosen regardless of their area affiliation. While this method might attract the most interested and competent among the farmers, the rotational-area leaders would serve as the only formal link between the association's central leadership and the different rotational-area groups. The structure could lead to tendencies of a small clique to dominate the association. Observations in the two zones, however, belied these expectations. In drawing up the terms for participation in system management, Zone I-A merely asked the members' confirmation of a prepared set

of conditions. In Zone I-B, in contrast, the board solicited farmers' suggestions during rotational-area meetings. The board members and other leaders consolidated the member-proposed terms, and presented these to NIA during the March 1982 negotiations. The Upper Lalo experience then emphasizes a salient point: the leadership structure in an association would only be as effective in maintaining farmers' commitment to the association as the operational procedures which the group observes. To compensate for the limited rotational-area representation in the association leadership, Zone I-B farmer-leaders seem to have installed the beginning of a process which continuously engages members in deciding the fate of the association.

Clarifying options for farmers' involvement. In Upper Lalo, farmers appeared not to have understood the distinction between NIA's joint system management with the associations and NIA's turning over the irrigation system completely to the associations. As a result, their terms straddled the two arrangements, and key conditions (such as sharing of irrigation-fee collections and costs of repair of irrigation facilities) could not be settled even during the second negotiation session in March 1982. This indicated a need to clarify at the outset the array of possible system management arrangements which could be contracted and what each arrangement entailed.

Development of mutually acceptable terms. In other national irrigation systems NIA operated and maintained the entire system except the terminal facilities within the 20-50 hectare turnout area. In Buhi-Lalo, NIA wanted to experiment with turning over operation and maintenance responsibility for an entire zone (about 250 hectares) to the zone-level irrigators' associations. While farmers were not necessarily opposed to this idea, the fact remained that NIA initiated this new arrangement. In recognition of this fact, COs encouraged farmers to draw up their own list of conditions for taking over these tasks. Thus, farmers' agreement on an initial set of negotiating conditions could be assured; what remained was to check these conditions against NIA policies and procedures. Conditions which did not contradict agency policies were immediately accepted; farmers' terms which deviated from NIA's current policies (for example, acceptable commissions on irrigation-fee collections to be given to irrigators' associations) were discussed and left open for amendment and further negotiation. Very rarely did the NIA negotiator refuse outright a particular condition. Instead, he sought various ways of accommodating farmers' demands; he also explored with the farmers how certain conditions (like irrigation-fee discounts to be extended to ROW

donors) could be reworked to make it acceptable to NIA and the farmers. The Upper Lalo experience, therefore, shows the need for flexibility in the agency when trying out nonconventional system management arrangements. However, the fact that mutually acceptable arrangements had not been agreed on by the end of the documentation period also reflects the difficulty of the negotiating process.

Coordination between COs and TS

Previous NIA experiences with farmers' participation in the design and construction of communal irrigation projects had indicated the close interrelationship between organizing and technical tasks and hence, the necessity for a close coordination of these activities. Building on this lesson, the Buhi-Lalo COs and TS had coordinated their tasks since organizing work began in late November 1980. Their coordination efforts took place in formal meetings as well as in the field.

Nature and method of coordination

Formal CO-TS coordination took place at the NIA project office or the regional training center. It brought together key project management personnel (such as the project manager, division chiefs, and section heads), other project personnel who were based in the office (particularly design engineers) and in the field (including zone engineers, surveyors, and water management technologists), and the organizing staff (COs and their supervisors). They effected coordination of activities in the entire Buhi-Lalo project area through seminar-workshops. While a number of CO-TS coordination meetings involved personnel assigned to either Upper Lalo or Lower Lalo, some sessions were convened exclusively for either Upper Lalo or Lower Lalo COs and TS.

Particularly for Upper Lalo, formal CO-TS meetings were held at least once a month. During meetings, COs and TS apprised each other of project developments in the field and in the office, aired and sought solutions to different problems encountered in implementing their work programs, and identified the kinds of support required in order to accomplish their tasks. The project management also imparted NIA policies, plans, and other information which would guide the activities of COs and TS. Management

also set, clarified, or standardized procedures for undertaking certain activities.

Informal coordination occurred primarily in the field. This involved COs, ZEs, personnel of the design and survey sections who met and worked with farmers in the location of terminal facilities, and other project staff members who assisted farmers in activities like negotiating for rights of way. In a zone where a ZE had been designated, COs were observed to have coordinated most intensively with this person. CO-ZE coordination in Upper Lalo began in late November 1980, but became more intensive between January and March 1981 when the temporary suspension of construction gave the ZE time to accompany the COs. In Lower Lalo, CO-ZE coordination in the two documentation zones commenced only when ZEs were deployed to these areas in June 1981.

To encourage COs and ZEs to coordinate their efforts, the project office instituted two moves. First, the area assignments of COs were matched with those of ZEs as much as possible so that they could form into work teams. And second, like COs, ZEs were required to reside full-time in their assigned areas especially during the period when the farmers were preparing for their participation in construction. Beginning in January 1981, for instance, at least two COs and one ZE worked as a team in a zone in Upper Lalo. ZE also set up full-time residence in his assigned zone within the first few months preceding the start of construction in the zone. In order to facilitate a close and immediate synchronization of tasks, COs and ZE who formed a team boarded together with a farmer's household. ZE frequently accompanied COs as the latter moved about the zone to conduct groundwork and notification campaigns, as well as to mobilize farmers for meetings and other activities preparatory to construction. In turn, COs were present while ZE discussed with farmers the construction prerequisites and as ZE undertook with farmers specific preconstruction tasks. And in Lower Lalo, COs and ZE accompanied farmers during walk-throughs to investigate the farmers' proposed ditch routes. Because COs and ZE were often together, they learned to appreciate each other's work and, inspite of initial misgivings among the engineers, to work as a team. Engineers who had worked in other (nonparticipatory) irrigation projects remarked that their experience with the Buhi-Lalo COs showed that technical and institutional (or nontechnical) staffs could work as a team rather than as rivals. Moreover, close coordination between COs and the engineers (including those working with the design and survey sections) enabled the field personnel to avoid imparting conflicting information which tended to confuse farmers, plan and assess

field needs jointly, understand and smooth out problems, and clarify issues with either the farmers or project management.

Two general situations emphasized the value of tight coordination between the institutional and technical staffs in the Buhi-Lalo project. In Upper Lalo, COs and ZE working in a zone jointly determined which rotational-area groups were ready to undertake canalization work. COs worked closely with farmer-leaders who were negotiating ROW and organizing work teams in their rotational area; ZE assisted the farmers prepare the ditch molds after the latter had confirmed the layout of terminal facilities which the project office had revised on the basis of farmers' suggestions and results of TS-farmer field investigations. Once COs and ZE were certain that ROW donations had been secured, enough farmer-workers were available to do canalization, and the ditch molds were ready, they then informed project management that construction could begin in the rotational area. In this way, COs and ZE provided the project office vital information for drawing up a realistic construction schedule for every rotational area in their assigned zone. And because COs and ZE had developed a basically common understanding of field situations, they could jointly argue to defer construction in a rotational area where the farmers were not yet ready.

In Lower Lalo, where farmers' participation in technical activities centered on the location of terminal facilities, close coordination between COs and the project's survey and design staffs allowed the timely entry of these technical personnel to discuss and/or investigate with the rotational-area groups the farmers' suggested ditch routes and turnout location. And when COs in the documentation zones kept the survey and design personnel informed about the progress of the paper location of terminal facilities by farmers in different rotational areas, these technical staff members were then able to anticipate when they would be needed to meet with the different rotational-area groups and to ensure that they would be available when farmers requested their presence in a conference or field investigation.

The two general cases cited stressed the point that close CO-TS coordination had made possible synchronization of institutional and technical activities. The pace of technical activities--be they related to system design or construction--was adjusted to the pace of organizing work so that farmers could effectively engage in project activities.

Lessons from the coordination experience in the Buhi-Lalo project

The experience of Buhi-Lalo COs and TS, particularly those assigned to Upper Lalo, affirmed the importance of closely coordinating organizing and technical activities in the implementation of the participatory approach to irrigation development. The experience also showed that close coordination between COs and TS could proceed basically well, despite difficulties, under the following conditions. First, the TS, particularly ZEs, were freed from the bind of having to meet technical accomplishment deadlines which had been set before the initiation of organizing work. In Upper Lalo, this became possible when construction work was suspended and technical schedules were subsequently adjusted to suit the organizing pace.

Second, the work areas assigned to COs and ZEs were matched, which enabled them to operate as a team and simplified coordination because COs needed to coordinate with only one ZE, and each ZE needed to coordinate with only two or three COs.

Third, ZEs were made to reside in their assigned area as did COs. Since this was implemented fairly early during the organizing period, this arrangement afforded ZEs the chance to gain personal insights into and understanding of COs' work. Likewise, they were able to get to know more the farmers with whom they were to work later. This seemed to have very beneficial effects on their understanding of farmers' requests and their willingness to listen and respect farmers' opinions.

Fourth, COs and TS jointly underwent orientation and training on the implementation of the participatory approach. Both parties were therefore provided with the opportunities for building rapport and understanding the nature and interrelationship of their roles.

And fifth, there was strong support from the project management. In the Buhi-Lalo project, the management had consistently emphasized the need for all project personnel to keep in mind the project's participatory goals. This prodding was especially essential for the personnel of certain sections of the project's engineering, construction, and administrative divisions because of the adjustments that they needed to make in their work to allow farmers' participation in project implementation. For instance, the design section of the engineering division needed to study the

feasibility of farmers' proposed revisions in the paper designs of terminal facilities and revise these designs in accordance with feasible suggestions. Through various directives and activities like workshops and meetings, the project management stressed as well the necessity for COs and TS to establish closer ties. In order to realize the goals of the participatory approach, it had also made clear to TS that they should be receptive to farmers.

A Final Summing Up of Lessons Learned

The 15-month documented experiences in the Buhi-Lalo project reveal that farmers can be drawn to participate in the design of system facilities, particularly farm ditches and other farm-level structures. Moreover, farmers' interest in engaging in pre-construction activities is closely linked with their likely involvement in the construction of these facilities as well as in the operation and maintenance of irrigation facilities. Farmers' readiness to assume system management responsibilities is, in turn, interrelated with the commitment which farmers have developed toward the irrigation system and the irrigators' associations which would undertake system operation and maintenance. The degree to which farmers actually participate in different phases of the project, however, hinges on project management's commitment to the participatory goals of the project and on how well technical activities are synchronized with the pace of organizing work.

The Buhi-Lalo project experiences show that when farmers were involved in the system design phase, the following benefits obtained. The number and total length of ditches were kept to a minimum because in places where farm ditches already existed, farmers generally preferred to retain these and open new ditch lines only when they thought these would increase the irrigable area or avoid right-of-way problems. Controlling the number of ditches to be constructed slightly reduced NIA's construction costs as well as minimized the losses of farm area to ditches. Farmers' intimate knowledge of the topography of their area helped fit the ditch designs to the terrain of the area. When the system began operations, all ditches functioned as anticipated, which engineers indicated was rarely the case in nonparticipatory projects. Further, farmers erased only one of the 68 constructed channels, a marked improvement on experience in nonparticipatory project areas where farmers erased the great majority of new channels built by NIA. Another benefit was the absence of ROW problems during construction. Because farmers negotiated for ROW

at the time that they located the farm ditches, it turned out that in only one case was there a construction delay due to a ROW problem.

The Upper Lalo project provides evidences showing that farmers can be drawn to contract construction works. After NIA had clarified and assured their involvement in the construction phase, farmers showed greater willingness to invest time and effort in finalizing the location of terminal facilities and right-of-way agreements. Farmers viewed their involvement in construction as a guarantee that their proposed location of terminal facilities would be respected. And in their desire to get the facilities constructed and the system functioning as soon as possible, farmers also became committed to complete construction as early and as close to technical specifications as they could. Indeed, none of the facilities which the farmers built had to be redone, and only a few of the completed ditch embankments had to be fortified.

Farmers' involvement in locating, negotiating ROW for, and constructing irrigation facilities seemed to have enabled farmers to identify themselves with the irrigation system which would serve their farms. In at least two rotational areas, farmers' groups began to maintain the ditches (which they had started to refer to as theirs) when these were made operational in March 1982; this farmers' initiative contrasted with the difficulties which NIA system personnel had encountered in mobilizing farmers to maintain the terminal facilities. Good groundwork appeared to have been laid by heavy involvement of farmers in the project, and this seemed a necessary precondition for strong farmers' groups. But whether it is a sufficient condition for a successful performance of farmers in system operation and maintenance remains to be seen.

The contract-negotiation experiences in Upper Lalo revealed a need for NIA to discuss with farmers the different system-management arrangements which they could contract. During the negotiations, farmers also insisted on ensuring that irrigation facilities were functional, resources were available for discharging management functions assigned to the association, and assistance in training farmers in system management was forthcoming. Even with strong farmers' groups, NIA assistance in different aspects of system operation and maintenance is likely to be needed. Observations from participatory communal irrigation projects indicate that while farmers have proved themselves quite capable of undertaking operation and maintenance, financial management is often a difficult endeavor. It is also worth noting

that at the end of the documentation research period, negotiations were still going on over fee-sharing arrangements, an issue which is likely to be hard to resolve immediately.

To realize the participatory goals of the Buhi-Lalo project, NIA had to allow COs sufficient preconstruction organizing lead time, to exercise flexibility in scheduling start of construction and in setting targets for organizing work, and to instill among the technical staff the willingness to work closely with the farmers. Project management also had to institute steps to allow COs and engineers assigned to the field to coordinate their tasks and to enable project personnel to make the adjustments required by the participatory approach. As demonstrated in the Buhi-Lalo project, involving farmers in irrigation development efforts often entailed departure from traditional NIA procedures and gradual evolution of processual and policy modifications. Compared with the traditional efforts to improve existing national irrigation systems or to develop new ones, a participatory project involves new costs and creates new constraints to the accomplishment of technical tasks. Community organizers had to be hired and trained; organizing costs for 16 months ending in March 1982 amounted to about ₱113 per hectare. Moreover, time had to be allowed for farmers to propose revisions, construction schedules had to be kept flexible to adapt to farmers' readiness to participate in construction, and NIA had to train farmers in system operation and maintenance. The participatory approach further demanded considerable efforts from both project management and technical staff because farmers wanted them to come to meetings and conduct field investigations. Balancing these costs, however, are basically two benefits: a functional and problem-minimum irrigation system, and an irrigators' association which can eventually take on the operation and maintenance of the system. The latter can translate into lower operation and maintenance costs which NIA has to spend after construction. On the whole, therefore, the approach offers a set of (tested and anticipated) attractive benefits which can offset additional NIA investments.

APPENDIX

Tables To Accompany Text

Table A1. Coverage of Upper Lalo and Lower Lalo in March 1982

Project area and zone	Size (in ha.)	No. of rotational areas[a]			Range of rotational-area sizes[b]	Communities covered
		RAMCs	RALATs	Total		
Upper Lalo	870	12	14	26	11-54	6 in Buhi and 1 in Iriga City
I-A	257	4	5	9	13-52	Antipolo, San Francisco, San Isidro (Buhi)
I-B	256	3	5	8	11-54	San Francisco, San Isidro, San Jose-Salay, Santa Isabel (Buhi)
II-A	357	5	4	9	16-49	Santa Isabel, San Jose-Salay, De los Angeles (Buhi); Del Rosario-Banao (Iriga City)
Lower Lalo[c]	2,304	25	50	84	5-52	1 in Buhi, 7 in Iriga, 4 in Nabua, and 7 in Bato
II-B	196	-	-	9[d]	7-48	Santa Justina (Buhi); Del Rosario-Banao (Iriga City)
II-C	265	6	2	8	24-52	Del Rosario-Banao, Sto. Niño, La Medalla (Iriga City); Santa Justina (Buhi)
III-A	232	9	0	9	12-38	La Medalla and San Antonio (Iriga City)
III-B	321	-	13	13	5-50	San Antonio, La Trinidad, Salvacion, and Santa Cruz (Iriga)

Table A1 (cont.)

Project area and zone	Size (in ha.)	No. cf rotational areas RAMCs	RALATs	Total	Range of rotational-area sizes	Communities covered
Lower Lalo (cont.)						
IV-A	302	1	10	11	9-48	Salvacion, San Antonio (Iriga); Masoli, Niño Jesus (Bato); Lourdes Old, Lourdes Young (Nabua)
IV-B	314	5	7	12	11-44	Paloyon, Lourdes Young (Nabua); Salvacion (Iriga City); Masoli (Bato)
V-A	328	2	10	12	9-49	Agos, Masoli, Niño Jesus, San Miguel (Bato)
V-B	346	2	8	10	22-48	Bustrac (Nabua); Santa Cruz, San Vicente (Bato)
Total	3,174	37	64	110	5-54	6 in Buhi, 7 in Iriga, 4 in Nabua, and 7 in Bato

[a]The codes used for rotational areas are as follows: RAMCs, those served by turnouts located in the main canal; and RALATs, those whose turnouts are found in lateral canals.

[b]The size of rotational areas are stated in terms of hectares.

[c]The rotational-area composition of zones in Lower Lalo was first established in April 1981 (see Illo and Felix 1981 for details).

[d]These are areas to be served by the left connector canal.

Table A2. Selected information on the changes in Lower Lalo coverage between April 1981 and March 1982[a]

Month of effectivity	Size (in ha.)	No. of zones	No. of rotational areas		
			Main canal	Lateral canal	Total
April 1981[b]	3,530	13	19	61	89[c]
July 1981[d]	2,307	8	19	53	72
February 1982[d]	2,108	7	25	48	73
March 1982[b]	2,303	8	25	50	84[c]

[a]The changes in the Upper Lalo coverage took place in April 1981 when two downstream zones (II-B and II-C) were transferred to Lower Lalo, and in July 1981 when a rotational area (RAMC-11) was reclassified from a Zone II-A area (that is, drawing water from the Lalo River system's main canal) to a Zone II-C area (i.e., drawing water from the new main canal of the Lower Lalo system).

[b]Zone II-B became part of Lower Lalo.

[c]Includes 9 rotational areas of the left connector canal.

[d]Zone II-B was defined as an autonomous zone.

Table A3. Restructured Buhi-Lalo project coverage based on water management districts: March 1982

Water management district and zone composition	Zone label until February 1982	No. of rotational areas	Size of district and zone (in ha.)
District 1			513.7
I-A	I-A	9	257.4
I-B	I-B	8	256.3
District 2			356.8
II	II-A	9	356.8
District 3			460.6
III-A	II-B	9	195.8
III-B	II-C	8	264.8
District 4			552.7
IV-A	III-A	9	231.7
IV-B	III-B	13	321.0
District 5			616.4
V-A	IV-A	11	302.4
V-B	IV-B	12	314.0
District 6			673.7
VI-A	V-A	12	327.6
VI-B	V-B	10	346.1
Total	-	110	3,173.9

Table A4. Distribution of COs in the Buhi-Lalo project area: January 1981 to March 1982[a]

Zone (as of January 1981)	January-March		April-June		July-September	October-December	January-March
	RCO	SCO	FCO	TCO			
I-A	1	1	1	2	2	2	2
I-B	2	1	2	-	2	2	2
II-A	1	1	1	2	2	2	2
II-B	1	-	1	-	1	1	1
II-C	1	1	1	1	2	2	1
III-A[b]	1	1	1	-	-	-	1
III-B	1	1	1	-	2[c]	2	2
IV-A	2	1	2	-	2	2	2
IV-B	1	-	-	1	1	1	1
V-A	1	-	-	1	1	1	1
V-B	1	1	-	1	1	1	1
VI-A	1	-	-	1	1	1	-[d]
VI-B[e]	1	-	-	1	-	-	-
Total	15	8	10	5[f]	17	17	16

[a]The codes used for types of community organizers (COs) are as follows: RCO, regular CO; SCO, student CO; FCO, full-time CO; TCO, temporarily assigned CO.

Table A4 (cont.)

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[b]When the TS' July zoning scheme for Lower Lalo deleted 7 of the 9 Zone III-A areas, the farmers' assistance division assigned the remaining 2 areas to Zone III-B CO-1 and fielded the new Zone III-A CO to Zone II-C.

[c]Only CO-1 worked in the field until 15 November 1981.

[d]Zone VI-A was relabeled Zone V-B after Zones IV-B and V-B were merged to form the new Zone IV-B. The CO assigned to Zone IV-B in July 1981 was assigned to Zone II-B (to replace the original CO who was promoted to be Lower Lalo COs' supervisor).

[e]Zone VI-B was deleted from the July 1981 zoning scheme.

[f]The 5 part-time COs of Lower Lalo were temporarily working at the same time in Upper Lalo.

Table A5. Changes in the design section's and in the farmers' assistance division's delineation of the rotational-area composition of the documentation zones in Lower Lalo between April 1981 and March 1982

Zone and period	No. of rotational areas according to		Remarks
	Design section	Farmers' assistance division	
Zone III-B			
April and May 1981	10	11	In April 1981, the design section's zoning scheme included 10 rotational areas which would be served by Lateral K. These areas were assigned to Zone III-B CO who also organized a main-canal area (RAMC-19) which she had covered since January 1981.
June	10	12	The project office assigned Zone III-B CO-1 to take over the organizing activities which Zone III-A CO began in RAMC-18.
July	11	14	The farmers' assistance division assigned Zone III-B CO the task of organizing another Zone III-A area (RAMC-18-A then known as RALAT-J-1).[a] The design section, however, transferred RAMC-19 from Zone IV-A to Zone III-B, and created a special area (RAMC-SP-4) in place of a Lateral K rotational area.

Table A5 (cont.)

Zone and period	No. of rotational areas according to		Remarks
	Design section	Farmers' assistance division	
Zone III-B (cont.)			
August-November	12	15	A special rotational area (RALAT-K-SP-3) was formed out of a 7-hectare section of RALAT-K-SP-1 after TS and the farmers had established that this section could not be irrigated from RALAT-K-SP-1's turnout. This increased the TS-defined zone coverage to 12, and the COs' operational areas to 15.
December 1981 and January 1982	11	14	RAMC-SP-4 was dropped from the designed zone coverage after TS-farmer surveys established that it could not be irrigated from the main canal or any lateral canal.
February 1982	12	12	Three Zone III-B COs' areas (RAMC-18, RAMC-18-A, and RAMC-19) were reclassified by the project office together with 5 main-canal groups in Zone II-C to constitute the new Zone III-A. Meanwhile, 2 Zone IV-A areas (RALAT-L-9 and RALAT-L-10) were transferred to Zone III-B when TS' surveys of the areas determined that these areas could not be served by Lateral L, but by Lateral K.

Table A5 (cont.)

Zone and period	No. of rotational areas according to		Remarks
	Design section	Farmers' assistance division	
Zone III-B (cont.)			
March	13	13	A special rotational area (RALAT-K-SP-4) was created out of a 7-hectare section of RALAT-K-3 after TS-farmer field investigations indicated that the latter's turnout could not serve the 7-hectare portion; thus, a new turnout was designed for the affected area.
Zone IV-A			
April to June 1981	7	9	In April 1981, the design section identified 3 main-canal areas (RAMC-19, RAMC-20, and RAMC-21) and 5 Lateral L areas to be the coverage of Zone IV-A. The COs' work coverage, however, included 9 areas because of their organizing work in 2 Lateral N areas which they covered since January 1981.
July	12	14	All areas which would draw water from Lateral L were grouped to constitute Zone IV-A. Because part of Lateral L had previously been in Zone IV-B, this added area to the zone. At the same time, the 3 main-canal areas were transferred to other zones.[b]

Table A5 (cont.)

Zone and period	No. of rotational areas according to		Remarks
	Design section	Farmers' assistance division	
Zone IV-A (cont.)			
August 1981 to January 1982	12	12	By August, Zone IV-A COs turned over the 2 Lateral N areas they had organized to Zone V-A CO, who was then covering all Lateral N rotational areas.
February	12	12	Two Zone IV-A areas (RALAT-L-9 and RALAT-10) were redesigned so that these could draw water from Lateral K, and were subsequently transferred to Zone III-B. However, a special area (RAMC-SP-5-A) was delineated out of a 15-hectare section of RALAT-L-1 after TS-farmer field investigations established that the area could not be served by RALAT-L-1's turnout. Moreover, a Zone IV-B area (RAMC-SP-5, later renamed RAMC-SP-5-B) was reclassified as Zone IV-A area. By end of February, the zone's area composition had been changed but the number of areas covered remained to be 12.
March	11	11	The project office returned RAMC-SP-5-B to Zone IV-B.

Table A5 (cont.)

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[a]It was reported in July 1981 (Lower Lalo Report No. 7) that 4 Zone III-A areas were reclassified as Zone III-B CO-1's organizing areas. Of these 4 areas, however, only 2 (RAMC-18 and RALAT-J-1, later known as RAMC-18-A) were actually assigned to the CO; the remaining 2 (RALAT-J-2 and RALAT-J-SP-2) were assigned to Zone II-C COs.

[b]When Zone IV-A was redefined by the design section in July 1981, one of the original Lateral L areas of the zone was converted into a special area (RALAT-L-SP-2) while another area (RALAT-L-SP-1) was identified out of a section of an original Zone IV-A area.

Table A6. Results of validation of Upper Lalo Zones I-A and I-B rotational-area membership lists as of July 1981, December 1981, and March 1982

Zone and area	NIA original estimate of no. of farmers	Validated number of farmers					Member of another area[c]
		July 1981	December 1981	March 1982			
				Resident[a]	Non-resident[b]	Total	
Zone I-A							
RAMC-1	27	38	26	27	0	27	4
RAMC-2	20	43	35	-	-	-	-
RAMC-3	75	82	80	54	2	56	11
RAMC-4	57	75	75	-[d]	-	-	-
RALAT-A-SP-1	16	22	34	14	10	24	6
RALAT-A-SP-2	15	16	16	8	8	16	2
RALAT-A-1	13	39	39	17	15	32	6
RALAT-A-2	53	42	63	46	27	73	1
RALAT-A-3	26	12	12	3	5	8	4
Total	302	59	380	169	67	236	-
Zone I-B							
RAMC-5	54	52	52	30	4	34	7
RAMC-6	66	55	55	31	9	40	5
RAMC-SP-1	39	39	39	23	2	25	0
RALAT-B	54	62	62	35	8	43	9

Table A6 (cont.)

Zone and area	NIA original estimate of no. of farmers	Validated number of farmers					Member of another area
		July 1981	December 1981	March 1982			
				Resident	Non-resident	Total	
Zone I-B (cont.)							
RALAT-C	69	77	77	44	22	66	12
RALAT-D	35	35	35	25	4	29	2
RALAT-E-1	69	59	59	26	16	42	6
RALAT-E-2	67	45	45	21	6	27	7
Total	453	424	424	235	71	306	-

[a]This refers to members who resided within the rotational area where they cultivated a farm.

[b]This refers to members who had farms in the rotational area but who resided elsewhere.

[c]This refers to farmers with fields in the area but who decided to be members of another rotational area in the zone where they had another farm lot.

[d]Revalidation activity in the area was still ongoing by end of March 1982. Initial results showed that in RAMC-2 there were 7 nonresident members; in RAMC-4, there were 1 and 3 nonresident members and farmers who joined another area, respectively.

Table A7. Selected information on the identification of rotational-area and ditch leaders in Upper Lalo documentation zones: January 1981 to March 1982

Zone and area	No. of farmer-leaders identified			No. of farmer-leaders dropped			Farmer-leaders as of March 1981
	Elected	Appointed	Total	Because of validation	Became zonal officers	Total	
Zone I-A							
RAMC-1	7	1	8	2	3	5	3
RAMC-2	6	1	7	1	3	4	3
RAMC-3	1	7	8	1	3	4	4
RAMC-4	8	4	12	5	1	6	6
RALAT-A-SP-1	3	-	3	-	1	1	2
RALAT-A-SP-2	2	4	6	2	2	4	2
RALAT-A-1	10	2	12	6	2	8	4
RALAT-A-2	11	4	15	9	1	10	5
RALAT-A-3	-	3	3	1	1	2	1
Total	48	26	74	27	17	44	30
Zone I-B							
RAMC-5	7	3	10	-	4	4	6
RAMC-6	4	2	6	2	-	2	4

Table A7 (cont.)

Zone and area	No. of farmer-leaders identified			No. of farmer-leaders dropped			Farmer-leaders as of March 1981
	Elected	Appointed	Total	Because of validation	Became zonal officers	Total	
Zone I-B (cont.)							
RAMC-SP-1	1	2	3	1	-	1	2
RALAT-B	12	2	14	2	3	5	9
RALAT-C	9	5	14	1	2	3	11
RALAT-D	3	2	5	1	2	3	2
RALAT-E-1	4	3	7	3	-	3	4
RALAT-E-2	3	5	8	2	2	4	4
Total	43	24	67	12	13	25	42

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Table A8. Selected information on farmers' rotational-area meetings convened in Upper Lalo Zone I-A: January 1981 to March 1982

Month	No. of RAs involved[a]	Total no. of public meetings	Who usually planned	Who usually notified	Average no. of farmers per rotational area[b]	Average attendance rate[c]	Average participation rate[d]
January 1981	5	6	COs, FLs[e]	COs[e]	34	52%	13%
February	3	6	COs, FLs	COs, FLs	57	79	16
March	2	2	COs, FLs	FLs	61	43	15
April	3	5	FLs, farmers	FLs, farmers	49	39	45
May	5	7	FLs, farmers	FLs	38	34	35
June	5	5	FLs, COs or farmers	FLs, COs	48	34	28
July	9	14	COs, FLs	FLs	40	35	58
August	3	3	FLs, CO or farmers	FLs	38	50	81
September[f]	-	-	-	-	-	-	-
October	4	4	FL, ZE[g]	FL	23	55	35
November	2	2	FL, CO	FLs	27	94	33
December	6	8	CO, FLs	FLs	40	52	33

Table A8 (cont.)

Month	No. of RAs involved	Total no. of public meetings	Who usually planned	Who usually notified	Average no. of farmers per rotational area	Average attendance rate	Average participation rate
January 1982[f]	-	-	-	-	-	-	-
February	8	9	FLs	FLs	25	76%	56%
March[f]	-	-	-	-	-	-	-

[a]The figures refer to the rotational areas (RAs) which held meetings during the month.

[b]The figures are based on the validated lists of farmers in the RAs during the month, except those of January and February 1981 (based on NIA's estimates) and February 1982 (based on the number of farmers notified about meetings because validated lists for half the number of RAs involved were not available at the time). The figures for February and May 1981 are applicable only to 1 (of the 3) and 3 (of the 5) RAs, respectively.

[c]Average attendance rate refers to the percentage of farmers who attended meetings convened in a zone during the month to the total estimated or validated number of farmers in the RAs. The figures for February and May 1981 are applicable only to 1 (of the 6) and 3 (of the 7) meetings, respectively.

[d]Average participation rate refers to the percentage of farmers who took part in discussions during meetings convened in a zone during the month to the total number of farmers who attended these meetings. The figure for January 1981 is applicable only to 2 (of the 6) meetings; February 1981, 1 (of the 6) meeting; April, 2 (of the 5) meetings; May, 3 (of the 7) meetings; June, 4 (of the 5) meetings; and July, 13 (of the 14) meetings.

Table A8 (cont.)

[e]COs stands for community organizers; FLs, or farmer-leaders, refer to the farmer-elected or -appointed leaders in the RAs.

[f]No meeting was convened during the month.

[g]ZE means zone engineer.

Table A9. Selected information on farmers' meetings convened in Upper Lalo Zone I-B: January 1981 to March 1982

Month	No. of RAs involved[a]	Total no. of public meetings	Who usually planned	Who usually notified	Average no. of farmers[b]	Average attendance rate[c]	Average participation rate[d]
January 1981	5	8	COs, FLs[e]	COs	58	37%	37%
February	4	3	COs, FLs	COs, FLs	54	20	27
March	7	6	COs, FLs	FLs	48	25	30
April	1	1	COs, FL	FL	41	41	-f
May	1	1	FL	FL	62	47	-f
June	1	1	FL, COs	FL	39	69	27
July	8	9	COs, FLs	FLs	61	50	96
August	2	1	FLs	FLs	47	23	27
September[g]	-	-	-	-	-	-	-
October	3	3	FL	FLs	43	60	5
November	1	1	FLs	FLs	52	31	31
December	8	8	FLs	FLs	53	59	31
January 1982	6	5	FLs	FLs	40	71	51
February	2	2	FLs, BP[h]	FLs	27	74	80
March[g]	-	-	-	-	-	-	-

Table A9 (cont.)

[a]The figures refer to the rotational areas (RAs) which held meetings during the month.

[b]The figures are based on the validated lists of farmers in the RAs during the month, except those of January and February 1981 (based on NIA's estimates). The figures for January, February, and March 1981 are applicable only to 3 (of the 5), 1 (of the 4), and 6 (of the 7) RAs, respectively.

[c]Average attendance rate refers to the percentage of farmers who attended meetings convened in a zone during the month to the total estimated or validated number of farmers in the RAs. The figures for January, February, and March 1981 are applicable only to 3 (of the 8), 1 (of the 3), and 5 (of the 6) meetings, respectively.

[d]Average participation rate refers to the percentage of farmers who took part in discussions during meetings convened in a zone during the month to the total number of farmers who attended these meetings. The figures for January, February, and March 1981 are applicable only to 1 (of the 8), 1 (of the 3), and 1 (of the 6) meetings, respectively.

[e]COs stands for community organizers; FLs, or farmer-leaders, refer to farmer-elected or -appointed leaders in the RAs.

[f]The participant-observer was unable to obtain data.

[g]No meeting was convened during the month.

[h]BP means board president.

Table A10 (cont.)

Zone and area	NIA-designed ditches which were				Additional ditches suggested by farmers or by farmers and TS	Total no. of ditches approved by NIA for construction
	Approved	Revised	Deleted	Total		
Zone I-B (cont.)						
RALAT-C	3	4	-	7	-	7
RALAT-D	1	-	-	1	-	1
RALAT-E-1	4	1	1	6	-	5
RALAT-E-2	1	2	-	3	-	3
Total	17	14	6	37	2	33

Table A10. Distribution of NIA-designed farm ditches which were approved by farmers or revised by farmers and TS, by zone and rotational area as of December 1981 in Upper Lalo documentation zones

Zone and area	NIA-designed ditches which were				Additional ditches suggested by farmers or by farmers and TS	Total no. of ditches approved by NIA for construction
	Approved	Revised	Deleted	Total		
Zone I-A						
RAMC-1	-	3	3	6	-	3
RAMC-2	2	2	1	5	-	4
RAMC-3	2	2	3	7	1	5
RAMC-4	1	4	-	5	-	5
RALAT-A-SP-1	-	1	1	2	1	2
RALAT-A-SP-2	3	-	-	3	-	3
RALAT-A-1	1	3	1	5	1	5
RALAT-A-2	2	1	-	3	4	7
RALAT-A-3	1	-	3	4	-	1
Total	12	16	12	40	7	35
Zone I-B						
RAMC-5	1	3	3	7	2	6
RAMC-6	3	1	1	5	-	4
RAMC-SP-1	-	2	-	2	-	2
RALAT-B	4	1	1	6	-	5

Table A11. Selected data on preconstruction meetings convened in Upper Lalo documentation zones: March to November 1981

Zone and area	Date of meeting	Parties involved in planning	Parties involved in notifying	No. of farmers/leaders covered[a]	No. of farmers/leaders attended	No. of farmers/leaders participated	Other attendees[b]
Zone I-A							
RAMC-2	11 May	4 leaders; 5 farmers	4 leaders	47	8	4	2 farmers' wives, CO, ZE
	18 May	4 leaders; 4 farmers	6 leaders	47	20	4	2 farmers' wives, ZE
RAMC-4	2 March	FLs; CO	7 leaders	75	30	3	2 COs, 2 ZEs, CCD, SSH, ISH, IDC-2
(SFDs 3-4)	28 October	FL; ZE	FL	16	8	1	1 farmer's wife, FL, CO, ZE
RAMC-1, RAMC-2 and RAMC-3 leaders	6 November	--[c]	--	19	9	9	CO, ZE
RALAT-A-SP-1	26 October	FL; CO	FL	22	14	6	CO, ZE
RALAT-A-SP-2	21 October	FL; ZE	FL	16	11	3	CO, ZE
RALAT-A-1	22 October	FL; ZE	4 leaders	39	18	8	CO, ZE
RALAT-A-2	10 June	FL; farmers	Through FL's letter	43	12	1	1 farmer's mother
	7 November	FL	FL	42	42	10	--
RALAT-A-3	28 May	FL	FL	11	9	4	2 COs, ZE

Table A11 (cont.)

Zone and area	Date of meeting	Parties involved in planning	Parties involved in notifying	No. of farmers/leaders co-vered	No. of farmers/leaders atten-ded	No. of farmers/leaders parti-cipated	Other attendees
Zone I-B							
RAMC-5, RALAT-C, RALAT-E-1, and RALAT-E-2	4 March	--	--	169[d]	26[d]	-	CO, ZE, CCD
RAMC-6	15 October	5 FLs	4FLs	55	33	2	CO, RAMC-SP-1 FL
RAMC-SP-1	2 October	FL	2 FLs	39	17	1	2 COs, 4 RAMC-6 and 1 RALAT-D leaders
RALAT-B	3 March	--	2 FLs	68	20	6	2 COs, ZE, CCD
RALAT-D	19 October	FL	FL	35	27	1	CO

[a]The figures refer to the validated number of farmers and/or farmer-leaders in a rotational-area or ditch groups in the month the meeting was held.

[b]CCD stands for chief of the construction division; CO, community organizer; FL, farmer-leader; IDC, institutional development consultant; ISH, the head of the irrigators' organization and training section; SSH, the head of the survey section; and ZE, zone engineer.

[c]The participant-observer was unable to obtain information.

[d]The figure excludes the farmers belonging to RAMC-5.

Table A12. Type and number of canal structures built through NIA direct administration or farmers' pacquiao contract in Upper Lalo documentation zones: March 1981 to February 1982

Type of structure	Direct administration		Pacquiao		Total
	I-A	I-B	I-A	I-B	
Turnout	1	1	-	-	2
Turnout with division box	1	-	-	-	1
Division box	5	5	2	5[a]	17
Farm ditch crossing	9	22	8	3	42
Farm ditch crossing with division box	-	-	1	-	1
Road crossing	-	1	-	1	2
Road crossing with division box	3	-	1	-	4
Check and drop	5	1	-	1	7
Ditch transition	8[b]	-	-	-	8
Drainage crossing	3	2[c]	-	-	5
Floodway	-	-	1	-	1
Total	35	32	13	10	90

[a]This figure includes 1 division box with drop.

[b]Six of the 8 ditch-transition structures were constructed in place of the originally proposed check-and-drop structures. According to the design section, the latter type of structure is more expensive. Also, both types of structures serve the same purpose.

[c]This figure includes 1 drainage culvert.

Table A13. Results of field inventories conducted in Upper Lalo documentation zones: March 1982[a]

Zone and area	Farm ditches and/or structures found defective; TS-farmer agreed solution (if any); and/or farmer-requested additional construction works
Zone I-A	
RAMC-1	Right embankments of SFDs 1 and 3 were found weak; farmers requested (1) a combined thresher crossing and check to make the turnout functional, and (2) farm ditch crossings at SFDs 2 and 3.
RAMC-2	Farmers requested the lining of MFD.
RAMC-3	Right embankment of SFD-2 was found weak; farmers requested (1) a ditch transition at MFD, (2) 2 farm ditch crossings, a ditch transition, and a division box at SFD-1, (3) a ditch transition and a farm ditch crossing at SFD-2, (4) a farm ditch crossing at SFD-2a, and (5) a combined check and drop at SFD-4.
RAMC-4	Farmers requested (1) 18-inch reinforced concrete pipes to replace the 12-inch pipes and a farm ditch crossing at MFD, (2) 2 ditch transitions and a check at SFD-1, (3) a division box and a ditch transition at SFD-2, and (4) a farm ditch crossing at SFD-3.
RALAT-A-SP-1	Farmers requested (1) a check at Lateral A to make the gate of the newly-constructed turnout functional, and (2) a check or ditch transition at SFD-1.
RALAT-A-SP-2	Embankment of DD was found eroded; farmers requested (1) a drainage inlet at SFD-1, and (2) a ditch crossing at SFD-2.

Table A13 (cont.)

Zone and area	Farm ditches and/or structures found defective; TS-farmer agreed solution (if any); and/or farmer-requested additional construction works
Zone I-A (cont.)	
RALAT-A-1	Right embankment of SFD-1 was found weak and a division box at MFD was assessed to be defective; farmers requested 2 drainage ditch crossings.
RALAT-A-2	A portion of an embankment of SFD-5 was found weak; TS and farmers agreed that this portion be lined.
RALAT-A-3	None.
Zone I-B	
RAMC-5	None.
RAMC-6	Farmers requested (1) the lining of a 4-meter section of the MFD right after the turnout, (2) a division box (to be located 47.1 meters from the existing division box) and a farm ditch crossing at SFD-1, and (3) a farm ditch crossing at IFD.
RAMC-SP-1	TS and farmers agreed to (1) close an illegal turnout, and (2) retain the old (existing) turnout along with the newly-constructed turnout; farmers requested (1) the lining of MFD, and (2) a farm ditch crossing at MFD.
RALAT-B	None.
RALAT-C	Division box at MFD was found defective; TS and farmers agreed that this structure be reconstructed to ensure a continuous flow of water; farmers requested (1) the lining of a 5-meter section of the MFD from the division box of SFD-5, and (2) a farm ditch crossing and a division box at SFD-4.

Table A13 (cont.)

Zone and area	Farm ditches and/or structures found defective; TS-farmer agreed solution (if any); and/or farmer-requested additional construction works
Zone I-B (cont.)	
RALAT-D	Offtake was found defective; TS and farmers agreed that this structure be relocated to a point 11 meters upstream of the inlet of the thresher crossing; farmers requested (1) the lining of a 10-meter section and another 20-meter section (a station) of MFD, and (2) a division box at MFD.
RALAT-E-1	Turnout and division box at MFD were found defective; TS and farmers suggested that (1) a double-gated check be installed at the turnout to be able to divert water to RALAT-E-1, and (2) the division box be redesigned to serve as takeoff points of SFDs 2 and 3; farmers requested (1) the lining of MFD, (2) a combined check and drop right after the turnout, (3) a farm ditch crossing at MFD, (4) a combined check and drop or bullcart crossing and a farm ditch crossing at SFD-2, and (5) a farm ditch crossing at SFD-3.
RALAT-E-2	None.

[a]This table excludes data on the specific locations (ditch stations) of defective facilities and of farmer-requested additional construction works.

Table A14. Farmers' reactions to NIA's plans reported by Upper Lalo rotational-area leaders during the 10 August 1981 leaders' conference

Zone/Concern of NIA's plans	Proportion of farmers' accepting or not accepting NIA plans	Reason for farmers' non-acceptance of plans
Zone I-A		
Farmers' organization	80 percent in favor; 20 percent not in favor	Lack of understanding of the plan
Water delivery	60 percent in favor; 40 percent not in favor	Desire for a trial to test the plan's effectiveness
Delegation of system operation and maintenance	85 percent in favor; 15 percent not in favor	Need to study the plan's feasibility and ignorance and confusion over it
Zone I-B		
Farmers' organization	Almost all in favor; a few not in favor	Apathy, belief that an organization is not necessary as long as farmers pay to NIA, fear that farmers will shoulder construction costs, and failure of past organizations
Water delivery	Almost all in favor; a few not in favor	Dislike for water rotation and belief that water supply is insufficient for three zones

Table A14 (cont.)

Zone/Concern of NIA's plans	Proportion of farmers accepting or not accepting NIA plans	Reason for farmers' non-acceptance of plans
Zone I-B (cont.)		
Delegation of system operation and maintenance	Almost all in favor; a few not in favor	Belief that plan places additional burden on farmers and lack of farmers' knowledge on this aspect
Zone II-A		
Farmers' organization, water delivery and delegation of system operation and maintenance	All in favor, reasoning that leaders would not have accepted these plans if they were not beneficial to farmers	

Table A15. Type, membership, and functions of committees created for the September 1981 Upper Lalo farmers' convention

Type	Membership	Functions
Steering	3 leaders (1 per zone)	Supervise the tasks of the 6 other committees created for the convention.
Transportation	8 leaders (Zone I-A, 1; Zone I-B, 3; Zone II-A, 4)	(1) On the basis of attendees' lists to be submitted by leaders of every rotational area, determine the number of transportation facilities required and make arrangements to secure these facilities, (2) before 4 September, provide leaders of every area with a list of places where the attendees will be fetched and the time they will be picked up at specified places.
Uniform and streamers	8 leaders (Zone I-A, 1; Zone I-B, 3; Zone II-A, 4)	(1) Collect attendees' t-shirts on 28-31 August and turn these over to CO-in-charge for printing by NIA, (2) prepare the t-shirt print which will be finalized by the CO-in-charge, (3) schedule the printing for 1-3 September, (4) return the printed t-shirts in the afternoon of 3 September, (5) design the streamers (printing to be done by NIA), (6) put up the streamers in 3 sites: Santa Justina, Buhi Poblacion (near cockpit), and at the stage (Buhi Church).
Sound system	8 leaders (Zone I-A, 1; Zone I-B, 3; Zone II-A, 4)	(1) Draft letter requesting the use of NIA's sound system and service vehicle to announce the forthcoming convention and follow up request on 31 August (the latter task to be done by 2 members), (2) assign 3 members to make the rounds of Upper Lalo on 1 September and 4 members on 3 September using the vehicle and

Table A15 (cont.)

Type	Membership	Functions
		sound system, (3) assign 7 members to assist the NIA personnel in installing the sound system on the service vehicle and keeping it after use, (4) determine the routes where the announcements will be made.
Food and snacks	8 leaders (Zone I-A, 1; Zone I-B, 3; Zone II-A, 4)	Distribute snacks which NIA will provide to attendees during the convention.
Registration	8 leaders (Zone I-A, 1; Zone I-B, 3; Zone II-A, 4)	(1) Type the list of attendees, with names arranged alphabetically by area and zone, (2) require attendees to sign opposite their names during the registration period--farmers belonging to more than 1 area should sign more than once, (3) request 3 or 4 members who will handle the registration to be at the convention site before 8:00 a.m. of 4 September, (4) request the stage-and-hall preparation committee to provide 3 tables.
Stage and hall preparation	9 leaders (Zone I-A, 1; Zone I-B, 4; Zone II-A, 4)	(1) Request the use of NIA's service vehicle to transport the committee members who will prepare the convention site on 3 September (excludes cleaning which church personnel will do for a ₱15-fee to be shouldered by NIA), (2) serve as ushers during the convention, (3) provide flowers for decorating the stage, (4) plan seating arrangement by area and zone.

[a]Except the steering committee, the committees were supervised by a CO.

Table A16. Upper Lalo farmers' terms and justification for accepting partial system operation and maintenance responsibilities and the responses of the NIA assistant administrator for operations: September 1981

Farmers' term	Farmers' justification	NIA assistant administrator's response
1. The sharing ratio for irrigation service fee should be 1 cavan for NIA and 4 cavans for the association.	The association needs a bigger share to pay the salaries of irrigation officials like water-masters and ditchtenders.	NIA cannot accept a share of 1 cavan considering that it will also shoulder a part of system operation and maintenance. But it may be possible for NIA to accept 1.5 cavans and give 3.5 cavans to the association when system is turned over fully to the association. This arrangement is used in communal systems. This issue will be referred to the NIA board of directors.
2. Farmers who gave rights of way for the construction of main and lateral canals, farm ditches, and access roads should pay only 50 percent of the irrigation fee.	These farmers gave portions of their lands for free. Their crop yield has lessened along with land size.	NIA cannot grant this condition because of the differences in size or amount of damages due to canal or access road construction. But NIA can compensate an affected farmer by assessing the damage on his land and deducting its value from the amount of irrigation fee that he has to pay NIA. Deduction will be made until such time that the value of the damage has been

Table A16 (cont.)

Farmers' term	Farmers' justification	NIA assistant administrator's response
		fully settled by NIA. This compensation scheme requires that the farmer possesses a Torrens Title to his land.
3. Payment of irrigation fee should be in a fixed cash amount to be remitted to NIA annually.	This will enable the association to pay NIA a fixed cash amount and to expect also its share from NIA to be a fixed cash amount.	This term is acceptable to NIA because it is to the advantage of both parties. At present, the irrigation fee of 5 cavans has not changed, but the price per kilo of palay which is based on the National Food Authority's stipulation has. The payment of the fixed amount can be incorporated in the contract between NIA and the association.
4. The association will assume the collection of farmers' back accounts with NIA on the condition that it will be given 25 percent of the collection.	The share compensates for the difficulty in collecting from delinquent payers.	NIA cannot grant a 25-percent commission. In communal systems, the current policy is to give 5-percent commission to an association as incentive. On this basis, NIA will probably agree on 5 to 10 percent commission depending on the collection rate. This will be referred to the NIA board.

Table A16 (cont.)

Farmers' term	Farmers' justification	NIA assistant administrator's response
5. The association will assume the repair of the main canal if only 5 meters long or less is destroyed; if the length needing repair exceeds 5 meters, NIA should undertake the repair. The association will also handle the repair of lateral canals and farm ditches.	The association will not have sufficient funds to underwrite major repairs during its initial phase of operation.	If the associations intend to assume operation and maintenance for the entire system, its responsibility will include repair of damaged canals regardless of length. In this case, transferring part of that responsibility to NIA will imply dependency on the agency which is contrary to the project's objective of developing self-reliance among farmers. To settle the issue, the association must decide whether it wishes to accept a full turnover of system operation and maintenance responsibilities or a joint operation of the system. A full turnover of responsibilities means that the association will become responsible for all damaged facilities. NIA can extend help to the association in the forms of calamity fund (donation) for repairs or loans from NIA's corporate fund which the association has to repay without interest charges within 50 years. On the other hand, a joint operation means that the

Table A16 (cont.)

Farmers' term	Farmers' justification	NIA assistant administrator's response
		association will handle only those repairs within its capability; NIA will assume those which the association cannot tackle.
6. Each zone should be given an office for the association.	The office will be used to hold farmers' meetings and keep association records and properties.	This is acceptable to NIA since it recognizes an association's need for an office. The association in Zone I-A will be given the NIA field office in San Francisco, Buhi; in Zone II-A, the NIA watermaster's working station in De los Angeles, Buhi. Zone I-B association will choose the site of its office which NIA will construct. It is NIA's policy to provide a working station for every 500 hectares managed by its system personnel or an association.
7. If possible, the association should be provided with initial operating funds.	The association will not have funds for expenditures in its initial stage of operation. Its funds will come only once fees have been collected.	NIA cannot grant this form of financial assistance since it is not a banking institution. But under a joint operation some form of assistance can be explored.

Table A16 (cont.)

Farmers' term	Farmers' justification	NIA assistant administrators' response
8. If farmers harvest 30 cavans or less per hectare owing to natural calamities or lack of water, they should be exempted from paying the irrigation fee. But if they reap 31 cavans or more, they should be obliged to pay.	The farmers who are affected by natural calamities are certain to incur production losses.	NIA conforms to the condition that if a farmer's crops have been totally damaged and certified by a technician, he need not pay the fee. But if these were only partially damaged, he still has to pay it. If he cannot afford the payment, the association will advance it but the farmer must repay it once he achieves sufficient yield in the next cropping season. The association may also choose to derive advances for affected farmers from its contingency fund.
9. The association should be provided a service vehicle.	The vehicle will facilitate mobility of irrigation personnel in their everyday activities like inspecting canals, or in their collection of irrigation fees.	NIA acknowledges the association's need for a service vehicle. If there is a full turnover of operation and maintenance of the entire system to the association, NIA can provide a vehicle, the cost of which shall be paid by the association by installments.

Table A17. Progress of the preparation and validation of the lists of farmers in the Lower Lalo documentation zones: April 1981 to March 1982

Year and month	Zone III-B areas[a]				Zone IV-A areas[a]			
	Total no.	Organized during the month	With lists		Total no.	Organized during the month	With lists	
			Pre-pared	Vali-dated			Pre-pared	Vali-dated
1981								
April	11	1	1	1	9	2	2	-
May	11	2	1	1	9	2	2	-
June	12	4	4	1	9	5	3	2
July	14	5	5	1	14	6	5	2[b]
August	15	9	8	5	12	6	6	1
September	15	9	8	6	12	8	7	5
October	15	8[c]	8	6	12	9	7	5
November	15	11	8	6	12	5[c]	7	6
December	14	10	9	7	12	8	9	6
1982								
January	14	9	11	9	12	10	10	6
February	12	13	12	12	12	11	10	8
March	13	12	11[d]	10[d]	11	11	10[e]	10[e]

Table A17 (cont.)

[a]The rotational areas pertained to those assigned to the documentation zones' COs. Zone III-B areas covered about 25 hectares and 40 farmers on the average; Zone IV-A areas, 27 hectares and 54 farmers.

[b]The 2 validated farmers' lists in July pertained to the 2 areas which were transferred to Zone V-B CO in late July 1981.

[c]The number of rotational areas organized during the month declined because of the departure of 1 of the 2 COs assigned to the zone. The replacement CO in Zone IV-A covered only 1 of the 4 areas previously organized by the original CO-2.

[d]The lists of farmers for 3 areas which were reclassified to Zone III-A had been excluded; 1 of the 3 new areas of Zone III-B accomplished list validation before its transfer from Zone IV-A.

[e]Excluded the list for RALAT-L-10 which was reclassified as Zone III-B RALAT-K-9 and transferred to zone III-B COs in February 1982.

Table A18. Status of the preparation, validation, and revalidation of lists of farmers in the Lower Lalo documentation zones as of 31 March 1982[a]

Zone and rotational area	No. of farmers initially listed by CO and/or FL[b]	No. of farmers validated and/or revalidated by FLs
Zone III-B	371	459
RALAT-K-SP-1	30	55
RALAT-K-SP-2	25	24
RALAT-K-SP-3	10	12
RALAT-K-SP-4	18	18[c]
RALAT-K-1	25	62
RALAT-K-2	43	43
RALAT-K-3	30	38[c]
RALAT-K-4	18	23
RALAT-K-5	50	40
RALAT-K-6	64	64
RALAT-K-7	30	30
RALAT-K-8	_d	_d
RALAT-K-9	28	50
Zone IV-A	513	533
RALAT-L-SP-1	14	17
RALAT-L-1	74	70
RALAT-L-2	50	45

Table A18 (cont.)

Zone and rotational area	No. of farmers initially listed by CO and/or FL[b]	No. of farmers validated and/or revalidated by FLs
Zone IV-A (cont.)		
RALAT-L-3	33	33
RALAT-L-4	42	45
RALAT-L-5	100	119
RALAT-L-6	30	20
RALAT-L-7	80	60
RALAT-L-8	40	74
RALAT-L-SP-2	50	50
RAMC-SP-5-A	_d	_d

[a]The zone composition refers to that drawn up by the project office in February 1982.

[b]FL refers to farmer-leader.

[c]When RALAT-K-SP-4 was created out of a section of RALAT-K-3, the latter had 60 farmers confirmed as constituting the area. The distribution of farmers between the 2 areas (RALAT-K-3 and RALAT-K-SP-4) had yet to be finalized as of 31 March 1982.

[d]By end of March 1982, the list of farmers for the area had yet to be completed.

Table A19. Selected information on committees formed in areas covered by COs of the Lower Lalo documentation zones: May 1981 to March 1982

Zone and rotational area	Month when formed	Type of committees	No. of members	Manner of electing members to the committee
Zone III-B				
RAMC-19 (30)[b]	May 1981	Letter	4[a]	By acclamation
		Membership	4[a]	By acclamation
		Right of way	5[c]	By acclamation
RALAT-K-SP-1 (17)	June	Membership	3	By acclamation
		Spot map	3	By acclamation
		Right of way	3	By acclamation
RAMC-18 (15)	July	Membership	5	By acclamation
		Spot map	4	By acclamation
		Right of way	5	By acclamation
RAMC-18-A (formerly RALAT-J-1) (48)	August	Membership	4	All were elected by acclamation; additional members were subsequently named to the last 3 committees
		Spot map	4	
		Right of way	4	
		Survey	4	
RALAT-K-2 (22)	August	Membership	4	Chairmen were elected after which they named their respective committee members
		Spot map	4	
		Right of way	4	
		Survey	4	
		Walk-through	4	
RALAT-K-SP-2 (14)	August	Membership	3	By acclamation
		Spot map	3	By acclamation
		Right of way	3	By acclamation

Table A19 (cont.)

Zone and rotational area	Month when formed	Type of committees	No. of members	Manner of electing members to the committee
Zone III-B (cont.)				
RAMC-SP-4 (30)	August	Membership	4	By appointment by the assembled farmers
		Spot map	4	
		Right of way	4	
RALAT-K-3 (32)	November[d]	Membership	4	Chairmen were chosen from among lot leaders; members chosen by chairman of committee
		Spot map	4	
		Right of way	4	
RALAT-K-4 (21)	January 1982	Membership	3	By acclamation
		Spot map	3	By acclamation
		Right of way	3	By acclamation
		Walk-through	1[e]	By acclamation
RALAT-K-5 (11)	January	Membership	3	By acclamation
		Spot map	4	By acclamation
		Right of way	4	By acclamation
		Walk-through	1[e]	By acclamation
RALAT-K-6 (18)	January	Membership	3	By acclamation
		Spot map	3	By acclamation
		Right of way	3	By acclamation
		Walk-through	1[e]	By acclamation
RALAT-K-1 (25)	February	Membership	4	Highest-voted nominee was named chairman of the committee; other 3 nominees, as members
		Spot map	4	
		Right of way	4	

Table A19 (cont.)

Zone and rotational area	Month when formed	Type of committees	No. of members	Manner of electing members to the committee
Zone III-B (cont.)				
RALAT-K-7 (15)	February	Membership	3	By acclamation
		Spot map	3	By acclamation
		Right of way	3	By acclamation
		Walk-through	3	By acclamation
RALAT-K-SP-4[f] (30)	March	Membership	2	By acclamation
		Right of way	2	By acclamation
Zone IV-A				
RALAT-L-1 (28)	August 1981	Membership	4	By appointment
		Spot map	4	By appointment
		Right of way	4	By appointment
		Survey/walk-through	4	By appointment
RALAT-L-8 (35)	August	Membership	4	By acclamation
		Spot map	6	By acclamation
	January 1982	Right of way[g]	3	By acclamation
RALAT-L-10 (9)	August 1981	Membership	4	Chairman was elected; he chose his committee members
		Spot map	4	
		Right of way	4	
RALAT-L-5 (22)	September	Membership	6	By acclamation
		Spot map	5	By acclamation
		Right of way	5	By acclamation

Table A19 (cont.)

Zone and rotational area	Month when formed	Type of committees	No. of members	Manner of electing members to the committee
Zone IV-A (cont.)				
RALAT-L-2 (24)	September	Membership	4	By acclamation
		Spot map	3	By acclamation
		Right of way	6[h]	By acclamation
		Survey	4	By acclamation
RALAT-L-SP-1 (9)	October	Membership	1	Only committee chairmen were elected; all farmers to assist them
		Spot map	1	
		Survey/walk-through	1	
RALAT-L-6 (20)	February 1982	Membership	4	By acclamation
		Spot map	4	By acclamation
		Right of way	4	By acclamation
		Survey	4	By acclamation
RALAT-L-7 (43)	February	Membership	5	Committee chairman was elected; he appointed his members
		Spot map	5	
		Right of way	5	
		Survey	5	
RALAT-L-SP-2 (17)	March	Spot map	3	By acclamation
		Right of way	3	By acclamation
		Survey/walk-through	4	By acclamation

Table A19 (cont.)

[a]One committee member was chosen from each SFD.

[b]Figures in parentheses refer to the number of farmers present during the organizational meeting.

[c]One SFD had 2 representatives to the committee.

[d]In September, farmers in the rotational area divided their area into three "lots," instead of creating committees. One leader was chosen by acclamation for each lot.

[e]All farmers in the area were considered as members of the committee; thus, only the chairman is listed.

[f]No spot-map committee was formed because the area was included in the spot map of RALAT-K-3 where it originally belonged.

[g]When this committee was formed in August 1981, a chairman and 3 members were selected. In January 1982, a vice-chairman and another member were chosen.

[h]Two committee chairmen were selected for this committee.

Table A20. Number of farmer-leaders identified by COs and/or farmers in the rotational areas covered by the Lower Lalo documentation zones' COs during the four quarters beginning 1 April 1981

Zone and rotational area	Number of farmer-leaders identified as of			
	30 June 1981	30 September 1981	31 December 1981	31 March 1982
Zone III-B	26	103	102	124
RAMC-19	10	10	10	-[a]
RAMC-18	3	14	12	-[a]
RAMC-18-A	-[b]	17	17	-[a]
RAMC-SP-4	-	11	-[c]	-
RALAT-K-SP-1	10	10	10	10
RALAT-K-SP-2	-	11	11	11
RALAT-K-SP-3	-	2	2	2
RALAT-K-SP-4	-	-	-	5
RALAT-K-1	3	3	2	13
RALAT-K-2	-	21	21	21
RALAT-K-3	-	4	13	13
RALAT-K-4	-	-	4	10
RALAT-K-5	-	-	-	8
RALAT-K-6	-	-	-	8
RALAT-K-7	-	-	-	13

Table A20 (cont.)

Zone and rotational area	Number of farmer-leaders identified as of			
	30 June 1981	30 September 1981	31 December 1981	31 March 1982
Zone III-B (cont.)				
RALAT-K-8[d]	-	-	-	-
RALAT-K-9[e]	-	-	-	10
Zone IV-A	34	77	89	131
RALAT-L-SP-1	-	1	5	5
RALAT-L-SP-2	-	-	9	12
RALAT-L-1	3	13	13	13
RALAT-L-2	4	18	18	18
RALAT-L-3	-	-	1	7
RALAT-L-4	-	4	4	4
RALAT-L-5	-	17	17	17
RALAT-L-6	3	3	1	18
RALAT-L-7	-	3	3	22
RALAT-L-8	-	8	8	14
RALAT-L-9[d]	-	-	-	-
RALAT-L-10[e]	-	10	10	-
RALAT-N-1	12	-[f]	-	-
RALAT-N-2	12	-[f]	-	-

Table A20 (cont.)

Zone and rotational area	Number of farmer-leaders identified as of			
	30 June 1981	30 September 1981	31 December 1981	31 March 1982
Zone IV-A (cont.)				
RAMC-SP-5-A	-	-	-	1

[a]The rotational area was transferred to Zone III-A in February 1982.

[b]The area was transferred to Zone III-B for only one month (that is, in July 1981).

[c]RAMC-SP-4 was deleted from the project coverage in late 1981.

[d]RALAT-L-9 was reclassified as RALAT-K-8 in February 1982.

[e]RALAT-L-10 was reclassified as RALAT-K-9 in February 1982.

[f]The rotational area was transferred to Zone IV-B in mid-1981.

Table A21. Farmers' meetings scheduled and convened in the Lower Lalo documentation zones: April 1981 to March 1982

Month	Zone III-B			Zone IV-A		
	No. of RAs covered	Scheduled meetings	Convened meetings	No. of RAs covered	Scheduled meetings	Convened meetings
April 1981	1	1	-	2	-	-
May	2	1	1 (1)[a]	2	-	-
June	4[b]	5	4 (2)	5	3	2 (2)
July	4	4	1 (1)	6	-	-
August	9	8	5[c](5)	6	3	3 (3)
September	9	6	5 (4)	8	5	4 (3)
October	7[b]	1	-	9	5	1 (1)
November	10[b]	3	2 (2)	5	5	2 (2)
December	9[b]	2	-	8	10	1 (1)
January 1982	12[b]	8	6 (5)	9	5	5 (6)
February	14[d]	10	6 (5)	11	4	3 (3)
March	12	5	4 (3)	11	3	2 (2)
Totals	-	54	34	-	43	23

[a]Refers to the number of areas where meetings were held during the month.

[b]Excluding RAMC-19 where CO-1 did no organizing in July.

[c]Two other meetings were convened as farmer-leaders' sessions in one area.

[d]Includes RALAT-K-SP-4 which was subsequently merged with RALAT-K-4.

Table A22. Selected information on farmer-leaders' planning sessions held in areas covered by COs of the Lower Lalo documentation zones: April 1981 to March 1982

Month	Zone III-B			Zone IV-A		
	RAs involved[a]	Total no. of sessions	Meeting-related sessions[b]	RAs involved	Total no. of sessions	Meeting-related sessions[b]
April 1981	1	1	0	2	0	0
May	2	4	2	2	4	0
June	4	-[c]	-[c]	5	-[c]	-[c]
July	3	5	4	2	2	1
August	8	9[d]	7	3	2[e]	1
September	4	4	3	3	5	3
October	4	5	1	1	1	0
November	2	2	2	1	1	1
December	3	3	2	4	4	4
January 1982	4	4	4	4	5[e]	4
February	9	3[f]	1	3	5	4
March	8	11[g]	5	10	9[h]	2
Total	-	51	31	-	38	20

[a]RAs refers to rotational areas.

[b]Pertain to leaders' sessions which planned for farmers' meetings.

[c]No data were obtained for this month.

[d]Included 1 joint session for 4 areas (RAMC-18, RAMC-18-A, RAMC-19, and RAMC-SP-4).

[e]Included 1 joint session for 2 areas (RALAT-L-7 and RALAT-L-8).

[f]Included 1 joint session for 8 areas (RALAT-K-SP-1, and RALAT-K-1 to RALAT-K-7).

[g]Included 1 joint session for 5 areas (RALAT-K-4 to RALAT-K-7, and RALAT-K-9).

[h]Included 3 joint sessions for 10 of the 11 Zone IV-A rotational areas.

Table A23. Selected information on convened farmers' meetings in areas covered by Zone III-B COs: May 1981 to March 1982[a]

Month	RAs involved[b]	No. of convened meetings	Average no. of farmers per RA	Percent (to total) of farmers notified[c]	Percent (to total) of farmers attended	Percent of farmer-attendees who participated in discussion
May 1981	1	1	61	-[d]	50%	43%
June	2	4	49	-[d]	24	30
July	1	1	52	-[d]	29	80
August	5	5	45	69%	56	44
September	4	5	36	64	44	50
November	2	2	64	78	47	47
January 1982	5	6	51	82	35	-[d]
February	5	6	37	81	43	-[d]
March	3	4	53	75	42	-[d]
Total	-	34	50	76[e]	41[e]	48[e]

[a]No farmers' meeting was scheduled for April 1981. In October, the only meeting scheduled was postponed for the following month because only 5 of the farmers in the area came to the meeting. Then in December, 2 attempts to convene a farmers' meeting in 1 rotational area (RALAT-K-4) failed to draw what farmer-leaders felt was reasonably good attendance although the attendance rate in these 2 postponed meetings averaged to about 50 percent.

Table A23 (cont.)

[b]Refers to the number of rotational areas (RAs) which succeeded in convening farmers' meetings in a particular month.

[c]This is based on the average number of farmers whose rotational areas had a scheduled meeting. In the case of areas for which there was no data on the number of farmers notified about a planned meeting, the weighted average percentage figure computed from those areas with complete data was applied.

[d]No data were obtained for this month.

[e]This figure is a weighted average of the available monthly percentage data.

Table A24. Selected information on convened farmers' meetings in areas covered by Zone IV-A COs: June 1981 to March 1982[a]

Month	RAs involved[b]	No. of convened meetings	Average no. of farmers per RA	Percent (to total) of farmers notified[c]	Percent (to total) of farmers attended	Percent of farmer-attendees who participated in the discussions
June 1981	2	2	60	-[d]	13%	62%
August	2	3	51	76%	37	42
September	3	4	80	56	25	55
October	1	1	17	76	53	56
November	2	2	60	73	22	-[d]
December	1	1	50	90	42	-[d]
January 1981	6	5[e]	80	69	35	-[d]
February	3	3	50	88	58	-[d]
March	2	2	48	79	38	-[d]
Total	-	23	55	74[f]	33[f]	52

[a]No farmers' meeting was scheduled in this zone for April, May, and July 1981.

[b]Refers to the number of rotational areas (RAs) which succeeded in convening farmers' meetings in a particular month.

Table A24 (cont.)

[c]This is based on the average number of farmers whose rotational areas had a scheduled meeting. In the case of areas for which there was no data on the number of farmers notified about a planned meeting, the weighted average percentage figure computed from those areas with complete data was applied.

[d]No data were obtained for this month.

[e]One of these meetings was convened jointly for 4 areas.

[f]This figure is a weighted average of the available monthly percentage data.

Table A25. Selected information on the first farmers' meetings convened in the rotational areas covered by COs of the Lower Lalo documentation zones: April 1981 to March 1982

Zone and rotational area	Month of COs' entry	Date first farmers' meeting was convened	Date working committees were formed
Zone III-B (1-2)[a]			
RAMC-19	April	13 May	13 May
RALAT-K-SP-1[b]	May	8 June	27 June
RAMC-18	June	6 June	19 July
RALAT-K-SP-2	June	21 August	21 August
RALAT-K-1	July	13 February	13 February
RALAT-K-2	July	16 August	16 August
RAMC-18-A[c]	August	22 August	22 August
RALAT-K-SP-3	August	24 August	24 August
RALAT-K-3	August	6 September	14 November
RAMC-SP-4	August	23 August	23 August
RALAT-K-4	November	30 January	30 January
RALAT-K-5	January	27 January	27 January
RALAT-K-6	January	24 January	24 January
RALAT-K-7	January	18 February	18 February
RALAT-K-SP-4	March	27 March	30 March
RALAT-K-9[d]	March	-[e]	-[e]

Table A25 (cont.)

Zone and rotational area	Month of COs' entry	Date first farmers' meeting was convened	Date working committees were formed
Zone IV-A (2)[a]			
RALAT-N-1	April	7 June	_f
RALAT-N-2	April	7 June	_f
RALAT-L-1	June	30 August	30 August
RALAT-L-2	June	3 June	26 September
RALAT-L-6	June	6 February	6 February
RALAT-L-7	July	7 February	7 February
RALAT-L-8	July	31 August	31 August
RALAT-L-SP-1	August	10 October	10 October
RALAT-L-10	August	9 August	9 August
RALAT-L-4	September	21 March	_e
RALAT-L-5	September	12 September	14 September
RALAT-L-SP-2	November	21 March	21 March
RALAT-L-3	December	_e	_e
RAMC-SP-5-A	March	_e	_e

[a]The figures in parentheses pertain to the number of COs working in the zone. In Zone III-B, 2 regular COs covered the areas between July and September 1981, and November 1981 to March 1982.

[b]This area was first labeled RALAT-K-1.

Table A25 (cont.)

[c]This area was first labeled RALAT-J-1.

[d]This was already organized as RALAT-L-10 in late 1981.

[e]No meeting or committee organization had taken place by end of March 1982.

[f]Retained committees formed when farmers were organized into arbitrary groups.

Table A26. Selected information on activities related to the preparation of spot maps and paper location of canals and ditches in the areas covered by COs of the Lower Lalo documentation zones: April 1981 to March 1982[a]

Zone and rotational area	Date spot-map committee was created	Walk-through				Date paper location was confirmed
		Date held	Parties involved[b]	Duration (in hr.)	Length (in km.)	
Zone III-B (17)[c]						
RAMC-19[d]	February 1981	April	FLs	-[e]	-[e]	13 May
RAMC-18	19 July	17 August	5 FLs	7.0	3.0	September[f]
RAMC-18-A	22 August	-[e]	OC	-[e]	-[e]	September[f]
RAMC-SP-4	29 August	29 August	3 FLs, 5 FMs, CO, ZE	4.0	3.5	13 September
RALAT-K-SP-1	27 June	28 June	8 FLs, CO	-[e]	-[e]	-
		9 August	6 FLs, ZE	3.0	2.0	-
		20 August	4 FLs, CO, ZE	1.5	1.5	6 September
RALAT-K-SP-2	21 August	September	-[e]	-[e]	-[e]	27 September
RALAT-K-SP-3	24 August	-[g]	-	-	-	September[f]
RALAT-K-1	13 February	15 February	4 FLs	0.4	0.5	-
		21 February	7 FLs, 2 FMs, CO, ZE	4.0	2.5	21 February
RALAT-K-2	16 August	23 August	5 FLs, 1 FM	3.0	2.0	26 March
RALAT-K-3	14 November	21 November	6 FLs	1.0	2.0	30 January
		13 March[h]	8 FLs, 10 FMs, CO, ZE	1.5	2.0	-

Table A26 (cont.)

Zone and rotational area	Date spot-map committee was created	Walk-through				Date paper location was confirmed
		Date held	Parties involved	Duration (in hr.)	Length (in km.)	
Zone III-B (cont.)						
RALAT-K-4	30 January	February	SMC-H	-[e]	-[e]	3 February
RALAT-K-5	27 January	8 February	7 FLs, 4 FMs, ZE, CO	-[e]	1.5	-[i]
RALAT-K-6	24 January	27 January	4 FLs	5.0	3.0	-[f]
RALAT-K-7	18 February	24 February	8 FLs, 4 FMs, CO, ZE	2.0	2.0	18 February
RALAT-K-9[j]	9 August	10 March	6 FLs, 15 FMs, COs, ZE	1.5	3.0	10 March
Zone IV-A (15)[c]						
RALAT-N-1[d]	February 1981	April	FLs	-[e]	-[e]	7 June
RALAT-N-2[d]	March 1981	May	FLs	-[e]	-[e]	7 June
RALAT-L-SP-1	10 October	17 October	1 FL, 2 FMs, CO, ZE	1.0	1.5	February/ March[f]
RALAT-L-SP-2	21 March	-[k]	-	-	-	-
RALAT-L-1	30 August	6 September	7 FLs, 9 FMs, CO	3.0	3.0	27 September
RALAT-L-2	26 September	15 September	5 FLs, CO	2.5	2.0	26 September
		18 October	4 FLs, CO	2.0	1.0	-

Table A26 (cont.)

Zone and rotational area	Date spot-map committee was created	Walk-through				Date paper location was confirmed
		Date held	Parties involved	Duration (in hr.)	Length (in km.)	
Zone IV-A (cont.)						
RALAT-L-5	14 September	14 September	16 FLs, CO	3.0	3.0	October[f]
RALAT-L-6	6 February	21 January	3 FLs, CO	3.0	2.0	-
		7 February	4 FLs, 14 FMs, CO	1.0	1.5	12 February
RALAT-L-7	7 February	3 February	6 FLs	1.0	2.0	-
		8 February	16 FLs, CO	2.0	2.0	12 February
RALAT-L-8	31 August	2 September	4 FLs, CO	2.5	2.0	-
		18 September	6 FLs, ZE, CO	3.0	2.5	15 January
RALAT-L-10[i]	9 August	16 August	SMC-H	2.0	2.5	-

[a]Unless specified, the date of an activity falls between April 1981 and March 1982.

[b]The codes used are as follows: FL, farmer-leader; CO, community organizer; OC, overall chairman; SMC-H, spot-map committee chairman; FM, farmer-member; and ZE, zone engineer.

[c]The figures in parentheses pertain to the total number of rotational areas assigned to the documentation zones' COs during the research period. These include 2 areas which were reclassified from Zone IV-A to Zone III-B in February 1982.

[d]Spot-map activities were initiated when the area was yet classified as an arbitrary farmers' group.

Table A26 (cont.)

[e]No data on the activity were available.

[f]The confirmation of the leaders' paper location by the rotational-area membership took place either during groundwork undertaken by farmer-leaders or during TS-farmer walk-through of the area.

[g]No walk-through was held because of the smallness of the coverage of RALAT-K-SP-3.

[h]The March walk-through was conducted in connection with the then proposed division of the area into two.

[i]The area's spot map and paper location of ditches had yet to be confirmed by end of March 1982.

[j]The spot map was prepared when this rotational area was yet a part of Zone IV-A (then known as RALAT-L-10).

[k]In December, a walk-through was conducted to orient the farmers and the CO of the coverage of the rotational area. By end of March 1982, however, no walk-through was held for spot-map preparation purposes.

Table A27. Schedule of TS-farmer conferences, walk-throughs, and surveys (location of lines) conducted in the rotational areas covered by COs of the Lower Lalo documentation zones: May 1981 to March 1982

Zone and rotational area	Date TS-farmer conference was held	Date TS-farmer walk-through was held	Date TS-farmer survey was held
Zone III-B (14)[a]			
RAMC-19	20 May	20 May	27-29 May
RAMC-18	-	23 September	13-14 October
RAMC-18-A	-	9 September	14-17 September[b]
RAMC-SP-4	-	23 September	28-30 September
RALAT-K-SP-1	16 October	16 October	7 December
RALAT-K-SP-2	-	-	September/October
RALAT-K-SP-3	-	-	14-17 September[b]
RALAT-K-1	-	-	10 March
RALAT-K-2	-	-	16 March
RALAT-K-3	-	-	17-18 March
RALAT-K-4	-	-	18 March
RALAT-K-6	-	-	20 March
Zone IV-A (9)			
RALAT-N-1 and RALAT-N-2	23 June	-	8-10 June 2- 5 June
RALAT-L-1	12 September	-	6 January

Table A27 (cont.)

Zone and rotational area	Date TS-farmer conference was held	Date TS-farmer walk-through was held	Date TS-farmer survey was held
Zone IV-A (cont.)			
RALAT-L-2	-	5 November	5, 9-11 November
RALAT-L-5	9 October	-	13-16, 19 October
RALAT-L-6 and RALAT-L-7	12 February	12 February	19 and 22 February
RALAT-L-8	-	27 January	27-29 January
RALAT-L-5, RALAT-L-6, RALAT-L-7, and RALAT-L-8	-	26 January	-[c]

[a]The figures in parentheses pertain to the number of areas which were ready to meet with TS on system design.

[b]Two areas were covered during this period.

[c]Of the 4 areas, 1 (RALAT-L-5) was surveyed in October, another (RALAT-L-8) in January 1982, and 2 (RALAT-L-6 and RALAT-L-7) in February 1982.

Table A28. Selected information on TS-farmer conferences held in the areas covered by COs of the Lower Lalo documentation zones: May 1981 to February 1982

Zone and rotational area	Date held	Duration (in hr.)	Participants[a]
Zone III-B (14)[b]			
RAMC-19	29 May	1.5	36 farmers, engineering division chief, survey section head and an assistant, and other TS
RALAT-K-SP-1	16 October	2.5	3 farmer-leaders, 6 farmer-members, 2 design section assistants
Zone IV-A (9)[b]			
RALAT-N-1 and RALAT-N-2	23 June	2.0	39 farmers (31 from RALAT-N-2 and 8 from RALAT-N-1), survey section head, irrigators' organization and training section head, zone engineer, survey section assistants, and a watermaster
RALAT-L-1	12 September	3.0	33 farmers, design section head, survey section head, water management section head, 2 design section assistants, and a construction engineer
RALAT-L-5	9 October	2.5	6 farmer-leaders, 17 farmer-members, survey section head, 2 design section assistants, and the COs' supervisor for Lower Lalo

Table A28 (cont.)

Zone and rotational area	Date held	Duration (in hr.)	Participants[a]
Zone IV-A (cont.)			
RALAT-L-6 and RALAT-L-7	12 February	3.0	37 farmers, design section head, design section assistant, zone engineer, and 9 visitors

[a]The participants invariably included the community organizers (COs) assigned to cover the rotational area, and the participant-observer.

[b]The figures in parentheses pertain to the number of areas in the zone which had completed their spot map and paper location of canals and ditches and thus were ready to negotiate with TS on the system design.

Table A29. Major issues discussed by farmers and TS during their paper-location conferences which were held in the rotational areas covered by COs of the Lower Lalo documentation zones: May 1981 to March 1982

Issue or question raised by farmers	Where issue was discussed	TS' response
Right of way (ROW)		
Are farmers expected to obtain ROW for supplementary farm ditches?	RAMC-19	In previous national irrigation projects, ROW negotiations were needed only at the lateral-canal level. In this project, it would probably be better if ROW is obtained for farm ditches although no formal papers need be prepared.
Will ROW damages be paid?	RALAT-L-1, RALAT-N-1 and RALAT-N-2	Yes, provided farmers have complied with the following requirements: (1) submission of a tax declaration, (2) presentation of residence certificate, and (3) no arrears on land taxes beyond 3 years.
Are ROW damages tax-deductible?	RALAT-L-1	NIA is not concerned with this matter. The landowners will have to confer with the City Assessors' Office.
What happens if a landowner refuses to grant ROW?	RALAT-L-1, RALAT-L-6 and RALAT-L-7	Farmers should negotiate with landowners. However, if a landowner persistently refuses to grant ROW, NIA will resort to expropriation proceedings. (Some farmer-leaders in RALAT-L-6 and RALAT-L-7 said that they would ask a person who exerts some influence on a problematic landowner to persuade the latter to give ROW. If the landowner persists on his refusal, the farmers can also continue negotiating with him.)

Table A29 (cont.)

Issue or question raised by farmers	Where issue was discussed	TS' response
Survey		
TS did not follow the farmers' suggestions (such as, canal line should be straight rather than winding) during the survey. At least the RALAT-N-1 overall chairman did not agree with the TS' route	RALAT-N-1 and RALAT-N-2	Lateral N had to be surveyed first before location of lines could proceed. Moreover, survey of the lateral canal was aimed to help TS determine "water surface elevation." It was impractical to follow farmers' suggestions during the survey since many farmers would be affected; thus, more ROWs would have to be obtained than necessary. Because very few farmers went with the survey team, TS were not sure whether or not the suggestions given them were based on the desire of the participating farmers to divert the canals from their own ricelands. TS, however, conceded that a straight line would be best.
Too many stakes were driven on some farmers' land; the preliminary canal route surveyed passes through the center of some ricefields; or a proposed canal was perceived to take up a big portion of some ricelands.	RALAT-N-1 and RALAT-N-2	A resurvey might be conducted in the problem area. Farmers should make sure that many of them participate during the resurvey so that as many suggestions as possible could be considered by TS.

Table A29 (cont.)

Issue or question raised by farmers	Where issue was discussed	TS' response
Will NIA reroute a canal to bypass a small farm which will be so decimated that a farmer will be left with nothing once the proposed canal is constructed?	RALAT-L-1	If the farmer has no other means of livelihood and depends mainly on the produce of his small farm, then a new route will be located. However, if no feasible alternative route is found, then the canal will just have to traverse said small farm. NIA aims to serve the majority.
Can farmers still plant in areas already surveyed?	RALAT-N-1 and RALAT-N-2	Yes, farmers would be notified when they have to stop planting. At present, TS are merely collecting the data needed for construction.
Construction		
Will construction start immediately after the survey?	RALAT-L-5	No. Several steps need to be taken before construction can begin. For instance, the design section will have to review its initial designs based on data collected during the survey.
Who will construct the canals, and who will supervise the construction?	RAMC-19, RALAT-N-1 and RALAT-N-2, and RALAT-K-SP-1	NIA will hire or contract farmers in the construction of the canals, and main and supplementary farm ditches. However, construction of internal farm ditches will have to be done by the farmers concerned at their own expense. The zone engineer will supervise construction.

Table A29 (cont.)

Issue or question raised by farmers	Where issue was discussed	TS' response
System management		
Who will be responsible for opening canal gates?	RALAT-L-5	By end of system construction, irrigators' associations would have been formed. The association will take care of this task. Farmers will be trained on how to operate and manage their section of the irrigation system.
How much will farmers pay as irrigation fee?	RALAT-K-SP-1	In Upper Lalo, the annual irrigation fee is 5 cavans per hectare.
Will ditchtenders be paid?	RALAT-L-5	This is a decision which the association will have to make.
Who will repair lateral canals which get damaged after the system has been completed?	RALAT-L-5	The association will collect irrigation fees which will generate funds for the association's repair of damaged canals.

Table A30. Selected information on the TS-farmer walk-throughs conducted in the rotational areas covered by COs of the Lower Lalo documentation zones: May 1981 to February 1982

Zone and rotational area	Date held	Duration (in hr.)	Length (in km.)	Participants
Zone III-B (14)[a]				
RAMC-19	20 May	1.0	2.0	7 farmer-leaders, 6 farmer-members, engineering division chief, 2 survey section assistants, CO
RAMC-18	23 September	1.5	2.0	4 farmer-leaders, 12 farmers-members, design section assistants, zone engineer, CO
RAMC-18-A	9 September	3.5	5.0	7 farmer-leaders, 8 farmer-members, survey section head, design section assistants, zone engineer, COs' supervisor
RAMC-SP-4	23 September	2.5	2.0	5 farmer-leaders, 12 farmer-members, design section and right-of-way section assistants.
RALAT-K-SP-1	16 October	1.5	0.6	2 farmer-leaders, 12 farmer-members, design section assistants
RALAT-K-SP-3	9 September	0.4	0.5	3 farmer-leaders, survey section head, design section assistants, zone engineer, COs' supervisor

Table A30 (cont.)

Zone and rotational area	Date held	Duration (in hr.)	Length (in km.)	Participants
Zone IV-A (9)[a]				
RALAT-L-2	5 November	0.8	1.5	7 farmer-leaders, 5 farmer-members, survey section assistants
RALAT-L-6 and RALAT-L-7	12 February	1.0	2.0	18 farmers, design section head and assistant, zone engineer
RALAT-L-8	27 January	1.0	1.0	8 farmer-leaders, survey section assistants
RALAT-L-5, RALAT-L-6, RALAT-L-7, and RALAT-L-8	26 January	1.0	2.0	20 farmer-leaders, 6 farmer-members, design section assistant, zone engineer

[a]The figures in parentheses pertain to the number of areas in the zone with completed maps.

Table A31. Selected information on TS-farmer surveys (location of lines) held in the rotational areas covered by COs of the Lower Lalo documentation zones: May 1981 to March 1982

Zone and rotational area	Date held	Average no. of farmers involved	Result
Zone III-B (14)[a]			
RAMC-19	27-29 May	8	The TS-farmer survey team changed the location of the proposed turnout, MFD, and SFDs. The team also added SFD-4, which was not identified during the TS-farmer walk-through.
RAMC-18-A	14-17 September	9	No data.
RALAT-K-SP-3	14-17 September	5	No data.
RAMC-SP-4	28-30 September	6	The rotational area was excluded from the project coverage because it could not be served by the main canal or by Lateral M.
RAMC-18	13-14 October	5	The location of terminal facilities that is, ditches and structures) indicated in the farmers' spot map and endorsed by TS during the TS-farmer walk-through was confirmed during the survey.

Table A31 (cont.)

Zone and rotational area	Date held	Average no. of farmers involved	Result
Zone III-B (cont.)			
RALAT-K-SP-1	7 December	7	The location of terminal facilities identified in the farmers' spot map and endorsed by TS during the TS-farmer walk-through was confirmed during the survey.
RALAT-K-SP-2	September-October[b]	No data	No data.
RALAT-K-1	10 March	8	The location of terminal facilities indicated in the farmers' spot map and endorsed by TS during the TS-farmer walk-through was confirmed during the survey.
RALAT-K-2	16 March	2[c]	Only the MFD route was confirmed by the survey because farmers had no clearcut proposal for the SFD lines.
RALAT-K-3	17-18 March	7	The location of terminal facilities identified in the farmers' spot map and endorsed by TS during the TS-farmer walk-through was confirmed during the survey.

Table A31 (cont.)

Zone and rotational area	Date held	Average no. of farmers involved	Result
Zone III-B (cont.)			
RALAT-K-4	18 March	3	The location of terminal facilities indicated in the farmers' spot map and endorsed by TS during the TS-farmer walk-through was confirmed during the survey.
RALAT-K-6	20 March	3	Of the agreements reached by the TS-farmer walk-through team, only the location of the turnout and MFD was confirmed during the survey; SFD-1 was relabeled SFD-2 and the new SFD-1 was made to take off from the turnout and to run parallel to the lateral canal.
Zone IV-A (9)[a]			
RALAT-N-1	8-10 June	7	TS surveyed ditch routes which were not indicated in the farmers' spot map; some farmers objected and demanded a survey of those suggested in the spot map.

Table A31 (cont.)

Zone and rotational area	Date held	Average no. of farmers involved	Result
Zone IV-A (cont.)			
RALAT-N-2	2-5 June	7	TS surveyed ditch routes which were not indicated in the farmers' spot map; some farmers objected, resulting in the scheduling of a survey of the routes indicated in the spot map.
RALAT-N-1 and RALAT-N-2	29 June	11	A survey of the farmer-suggested and the TS-identified ditch routes confirmed the lines located by the survey team during the first survey.
RALAT-L-1	6 January	12	The TS-farmer survey team decided to divide RALAT-L-1 into 2 areas so that an existing turnout along the main canal in Niño Jesus, Bato could be used to serve portions of RALAT-L-1 which could not be irrigated by its turnout.
RALAT-L-2	5, 9-11 November	6	The survey of the terminal facilities indicated in the farmers' spot map did not yield definitive results.

Table A31 (cont.)

Zone and rotational area	Date held	Average no. of farmers involved	Result
Zone IV-A (cont.)			
RALAT-L-2	23 March	3	The TS-farmer survey team changed the location of the proposed turnout and MFD; scheduled another survey since the stationing of the SFDs was altered.
RALAT-L-5	13-16, 19 October	7	The location of the terminal facilities found in the farmers' spot map was confirmed during the survey.
RALAT-L-6	19, 22 February	7	The ditch routes originally suggested by farmers and endorsed by TS during the TS-farmer walk-through was confirmed by the survey but the farmer-proposed rerouting of the lateral canal was not found feasible because it would cut through high ground.
RALAT-L-7	22 February	8	One SFD was rerouted; hence, about 10 hectares of ricefields tilled by 20 farmers would not be served because of its high elevation. The other farmer-proposed ditch routes, however, were confirmed during the survey.

Table A31 (cont.)

Zone and rotational area	Date held	Average no. of farmers involved	Result
Zone IV-A (cont.)			
RALAT-L-8	27-29 January	10	A farmer-proposed SFD was deleted because it would pass through high ground and a sari-sari (variety) store; lands beyond the high ground would be irrigated by an existing culvert in RALAT-L-5; and an existing road crossing will be expanded.
	30 March	6	The extra length of SFDs proposed by farmers as well as the location of terminal facilities suggested by the TS-farmer walk-through team was confirmed by the survey.

[a]The figures in parentheses refer to the number of rotational areas in the zone which had completed spot maps and paper location of canal and ditch lines.

[b]Exact date(s) of the survey (location of lines) could not be determined.

[c]The survey was scheduled for 15 March. On this date, 7 farmers waited for the survey team. However, the team arrived the following day.

Table A32. Selected information on right-of-way negotiations involving farmers of the documentation areas covered by COs of the Lower Lalo documentation zones: May 198' to March 1982

Zone and rotational area	Date ROW committee was formed	Month farmers were mobilized for ROW negotiations for		
		access road	lateral canal	terminal facilities
Zone III-B (14)[a]				
RAMC-19	May	August	-	August
RAMC-18	July	August	-	November
RAMC-18-A	August	August	-	October
RAMC-SP-4	August	August	-	-
RALAT-K-SP-1	June	-	-	January
RALAT-K-SP-2	August	-	January	January
RALAT-K-SP-3	-[b]	August	January	October
RALAT-K-1	February	-	-	-
RALAT-K-2	August	-	January	March
RALAT-K-3	November	March	January	-
RALAT-K-4	January	March	March	February
RALAT-K-5	January	March	March	-
RALAT-K-6	January	March	March	-
RALAT-K-7	February	March	March	February
RALAT-K-9	August[c]	March	March	-

Table A32 (cont.)

Zone and rotational area	Date ROW committee was formed	Month farmers were mobilized for ROW negotiations for		
		access road	lateral canal	terminal facilities
Zone IV-A (9)[a, d]				
RALAT-L-1	August	November	September	September
RALAT-L-2	September	March	-	October
RALAT-L-5	September	March	-	January
RALAT-L-6	February	March	-	-
RALAT-L-7	February	March	-	-
RALAT-L-8	August	March	-	-

[a]The figures in parentheses pertain to the number of rotational areas in the zone which had completed spot maps. The Zone III-B figure does not include RALAT-K-5 whose paper location of ditches had not been confirmed by farmer-members as of end of March 1982.

[b]In August, the farmers elected only an overall chairman and a secretary.

[c]When the committee was formed, the area was then a part of Zone IV-A (as RALAT-L-10).

[d]When ROW negotiations began in RALAT-N-1 and RALAT-N-2, these areas were already part of Zone V-A.

Table A33. Selected information on field trips to Upper Lalo of farmers in rotational areas covered by COs of the Lower Lalo documentation zones: December 1981 to March 1982

Zone and rotational area	Field trip to Upper Lalo		
	Date planned	Date held	No. of participants
Zone III-B			
RALAT-K-2	March[a]	-	-
RALAT-K-3	March	-	-
Zone IV-A			
RALAT-L-1	January	28 February	55
RALAT-L-2	December	8 January	65[b]
RALAT-L-5	January	24 January	50
RALAT-L-8	January	7 March[c]	27

[a]During the 26 March farmers' meeting, it was decided that the field trip to Upper Lalo be deferred until after survey activities in the area had been completed.

[b]Some of these farmers came from other rotational areas.

[c]The trip was originally scheduled for January but was postponed because members were then busy in their respective farms.

LIST OF ABBREVIATIONS USED

BULFIA	Buhi Zone I-A Upper Lalo Farmer-Irrigators' Association, Inc.
CO	Community organizer
DD	Drainage ditch
IFD	Internal farm ditch
MFD	Main farm ditch
NIA	National Irrigation Administration
RALAT	Regular rotational area of a lateral canal
RALAT-SP	Special rotational area of a lateral canal
RAMC	Regular rotational area of the main canal
RAMC-SP	Special rotational area of the main canal
ROW	Right of way
RSC	Research and Service Center, Ateneo de Naga
SEC	Securities and Exchange Commission
SFD	Supplementary farm ditch
TS	Technical staff
ULRIBA	Upper Lalo River Irrigators' Beneficiary Association, Inc.
ZE	Zone engineer

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